

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

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IN RE: FACEBOOK, INC.,  
CONSUMER PRIVACY USER  
PROFILE LITIGATION

MDL No. 2843

Case No. 18-md-02843-VC-JSC

This document relates to:

ALL ACTIONS

\*\*\*CONFIDENTIAL\*\*\*

REMOTE VIDEOTAPED DEPOSITION OF  
SIMON CROSS  
30(B)(6) DESIGNEE, FACEBOOK, INC.

MONDAY, MAY 9, 2022

**REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED**

REPORTED BY: HOLLY THUMAN, CSR No. 6834, RMR, CRR  
JOB NUMBER 5210141

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Remote videotaped deposition of SIMON CROSS, taken by the Plaintiffs, with the witness located in London, United Kingdom, commencing at 3:49 P.M. London Daylight Time, on MONDAY, MAY 9, 2022, before me, HOLLY THUMAN, CSR, RMR, CRR.

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ALSO PRESENT:

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ROSE RING, In-House Counsel, Meta Platforms

JOHN MACDONELL, Videographer

DANIEL GARRIE, Special Master

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| MR. LOESER      | 6    |

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EXHIBITS MARKED FOR IDENTIFICATION

| NO.         | DESCRIPTION   | PAGE |
|-------------|---|------|
| Exhibit 332 | September 27, 2013, email chain, Konstantinos Papamiltiadis to Allison Hendrix and others (FB-CA-MDL-00198455 through -457) | 75   |
| Exhibit 333 | December 9, 2013, message summary, David Poll to Eddie O'Neil, David Poll (FB-CA-MDL-02140404 to -414)                      | 92   |
| Exhibit 334 | Presentation deck, Login v4 (+PS12n) - 1/24/2014 update (FB-CA-MDL-01685319.ppt)  | 125  |
| Exhibit 335 | Document provided at deposition, "Simon's in-depo notes"  | 153  |
| Exhibit 336 | October 31, 2013, email Simon Cross to Zhen Fang (FB-CA-MDL-00200051)   | 173  |
| Exhibit 337 | Changes made to v2 at f8**User Trust** (FB-CA-MDL-02145706 through -711)  | 176  |

PREVIOUSLY MARKED EXHIBITS REFERENCED

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| Exhibit 330 | Previously marked | 18   |
| Exhibit 98  | Previously marked | 115  |

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MONDAY, MAY 9, 2022

3:49 P.M.

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PROCEEDINGS

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|---|------------------------|----------|
| THE VIDEO OPERATOR:                                 | We're on the record.   | 15:49:21 |
| It's 3:49 P.M. London time on May 9, 2022.          | This is                | 15:49:22 |
| the deposition of Simon Cross, and we're here in    |                        | 15:49:29 |
| the matter of Facebook Consumer Privacy User        |                        | 15:49:32 |
| Profile Litigation.                                 |                        | 15:49:35 |
| I'm John MacDonell, the videographer, with          |                        | 15:49:39 |
| Veritext.   |                        | 15:49:42 |
| Before the reporter swears the witness,             |                        | 15:49:43 |
| would Counsel please identify themselves, beginning |                        | 15:49:45 |
| with the noticing party, please.                    |                        | 15:49:48 |
| MR. LOESER:   | Good morning. This is  | 15:49:51 |
| Derek Loeser from Keller Rohrback for Plaintiffs.   |                        | 15:49:52 |
| With me is Adele Daniel and Cari Laufenberg and     |                        | 15:49:56 |
| Emma Wright, also from Keller Rohrback.             |                        | 15:50:00 |
| MR. BLUME:  | This is Rob Blume from | 15:50:03 |
| Gibson Dunn on behalf of Facebook. With me is       |                        | 15:50:05 |
| Hannah Regan-Smith, Ian Chen, Josiah Clarke,        |                        | 15:50:08 |
| Matt Buongiorno, and Phuntso Wangdra.               |                        | 15:50:17 |
| MS. WEAVER:   | And good morning. It's | 15:50:23 |
| Lesley Weaver from Bleichmar Fonti & Auld, also on  |                        | 15:50:24 |

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|----|--|----------|
| 1  | behalf of the plaintiffs.                          | 15:50:30 |
| 2  | SPECIAL MASTER GARRIE: This is Special             | 15:50:31 |
| 3  | Master Garrie, here on behalf of the court.        | 15:50:31 |
| 4  | --oOo--  | 15:50:52 |
| 5  | SIMON CROSS,                                       | 15:50:52 |
| 6  | _____  | 15:50:52 |
| 7  | called as a witness, having been first duly        | 15:50:52 |
| 8  | sworn, was examined and testified as follows:      | 15:50:52 |
| 9  | ---oOo---  | 15:50:52 |
| 10 | EXAMINATION BY MR. LOESER                          | 15:50:52 |
| 11 | BY MR. LOESER:                                     | 15:50:52 |
| 12 | Q. Good morning, Mr. Cross. We met before we       | 15:50:56 |
| 13 | went on the record, but I'll introduce myself      | 15:50:58 |
| 14 | again. My name is Derek Loeser. I'm from the firm  | 15:51:00 |
| 15 | of Keller Rohrbach for the plaintiffs in this      | 15:51:03 |
| 16 | litigation, and with me is Cari Laufenberg,        | 15:51:05 |
| 17 | Adele Daniel, Emma Wright, and Ms. Weaver from her | 15:51:07 |
| 18 | firm as well.                                      | 15:51:12 |
| 19 | Have you had your deposition taken before?         | 15:51:13 |
| 20 | A. I -- I've been deposed previously, but I        | 15:51:17 |
| 21 | don't think I've been deposed in this particular   | 15:51:20 |
| 22 | case before.                                       | 15:51:23 |
| 23 | Q. Okay. And how many times have you been          | 15:51:24 |
| 24 | deposed previously?                                | 15:51:26 |
| 25 | A. Twice.  | 15:51:28 |

1 Q. And do you recall what those matters were 15:51:30  
2 in which you were deposed? 15:51:32  
3 A. The first was some -- a matter relating to 15:51:34  
4 '643, the '643 case, and then the second was a -- I 15:51:38  
5 don't recall exactly, but it's the -- the 15:51:45  
6 Washington District Attorney's -- Washington D.C., 15:51:48  
7 I think, case against -- against Meta relating to 15:51:52  
8 some of the matters -- 15:51:56  
9 (Reporter requested clarification.) 15:52:04  
10 THE WITNESS: -- relating to the, I 15:52:04  
11 recall, the Cambridge Analytica matter. 15:52:05  
12 BY MR. LOESER: 15:52:08  
13 Q. And the '643 matter was against Facebook 15:52:10  
14 as well. Is that right? 15:52:13  
15 A. That's correct, yes. 15:52:16  
16 Q. Okay. Well, you've been through this 15:52:18  
17 before, so -- but I'll just remind you of the basic 15:52:20  
18 rules, which are really designed to have a clear 15:52:23  
19 record. 15:52:26  
20 As the Special Master indicated, it's very 15:52:26  
21 important that we're not talking at the same time 15:52:28  
22 and that we let the court reporter take down what 15:52:30  
23 we are saying. 15:52:32  
24 If I ask a question and you don't 15:52:33  
25 understand the question, could you please ask me to 15:52:35

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| 1  | restate it, and I'll attempt to do that.           | 15:52:38 |
| 2  | And when you're answering questions, it's          | 15:52:42 |
| 3  | important to answer verbally, so that would be a   | 15:52:44 |
| 4  | good example. Shaking your head doesn't make it    | 15:52:47 |
| 5  | onto the record, but Yes/No does.                  | 15:52:50 |
| 6  | So could we make sure that you answer              | 15:52:52 |
| 7  | verbally?  | 15:52:54 |
| 8  | A. I understand.                                   | 15:52:55 |
| 9  | Q. And if you do answer one of my questions,       | 15:52:56 |
| 10 | I will assume you understood the question.         | 15:52:59 |
| 11 | Is that a fair assumption?                         | 15:53:01 |
| 12 | A. That's fine, yes.                               | 15:53:04 |
| 13 | Q. And over the course of the day, your            | 15:53:06 |
| 14 | attorney may object to questions that I ask. And   | 15:53:10 |
| 15 | when he does so, unless he instructs you not to    | 15:53:12 |
| 16 | answer the question, please wait for him to finish | 15:53:15 |
| 17 | objecting and then go ahead and answer the         | 15:53:17 |
| 18 | question.  | 15:53:19 |
| 19 | Do you understand that?                            | 15:53:20 |
| 20 | A. I understand that, yes.                         | 15:53:21 |
| 21 | Q. And we'll be going for a while, and if at       | 15:53:23 |
| 22 | any point you need a break, please just ask for    | 15:53:26 |
| 23 | one, and I will accommodate that the best I can.   | 15:53:28 |
| 24 | The only caveat is if there is a question          | 15:53:31 |
| 25 | that is pending, I will ask you to finish the      | 15:53:35 |



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|----|---|----------|
| 1  | question before we take a break.                    | 15:53:37 |
| 2  | Is that understood?                                 | 15:53:40 |
| 3  | A. Yeah. I understand.                              | 15:53:41 |
| 4  | Q. And sometimes if we're -- if there's a           | 15:53:42 |
| 5  | series of questions and I'm almost through the      | 15:53:44 |
| 6  | series, I'll ask if it's okay if we just finish the | 15:53:46 |
| 7  | series before taking a break.                       | 15:53:49 |
| 8  | Does that sound fair to you?                        | 15:53:51 |
| 9  | A. That sounds fair.                                | 15:53:53 |
| 10 | Q. Okay. And as the Special Master                  | 15:53:54 |
| 11 | indicated, he will be observing today, and so he    | 15:53:55 |
| 12 | may come on camera at some point to discuss         | 15:53:58 |
| 13 | matters.  | 15:54:01 |
| 14 | And it's important there as well that we            | 15:54:01 |
| 15 | make sure that he has the time and space to talk    | 15:54:03 |
| 16 | and that the record is clear so that we're not      | 15:54:06 |
| 17 | talking at the same time.                           | 15:54:08 |
| 18 | Is that fair?                                       | 15:54:09 |
| 19 | A. Yep. That's fair.                                | 15:54:10 |
| 20 | Q. Okay. And, Mr. Cross, is there anything          | 15:54:12 |
| 21 | that may impact your ability to testify honestly    | 15:54:14 |
| 22 | and truthfully today?                               | 15:54:18 |
| 23 | A. Not that I'm aware of.                           | 15:54:20 |
| 24 | Q. Okay. No medications or anything of that         | 15:54:22 |
| 25 | sort that may interfere with your recall or ability | 15:54:24 |

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|----|--|----------|
| 1  | to testify?  | 15:54:29 |
| 2  | A. No. I'm not on any medication, no.              | 15:54:29 |
| 3  | Q. And, Mr. Cross, you're located in London?       | 15:54:32 |
| 4  | A. That's correct.                                 | 15:54:36 |
| 5  | Q. And is that where you -- and I gather you       | 15:54:37 |
| 6  | work for -- for Meta. Right?                       | 15:54:40 |
| 7  | A. That's correct, yeah. I still work for          | 15:54:44 |
| 8  | Meta and live in London.                           | 15:54:46 |
| 9  | Q. Okay. And so how often do you come to the       | 15:54:52 |
| 10 | United States as part of your work?                | 15:54:54 |
| 11 | A. In the last two years, not at all, sadly.       | 15:54:56 |
| 12 | Before that, I used to come several times a year.  | 15:55:02 |
| 13 | Q. Okay. And do you think that going forward       | 15:55:06 |
| 14 | you'll be coming stateside more often?             | 15:55:08 |
| 15 | A. It's too early to say how much -- how much      | 15:55:13 |
| 16 | international we'll be doing. I doubt I'll be      | 15:55:15 |
| 17 | doing it as much as we used to.                    | 15:55:18 |
| 18 | Q. And, sir, if there were a trial in this         | 15:55:20 |
| 19 | case, would you be willing to fly across the ocean | 15:55:22 |
| 20 | to attend the trial?                               | 15:55:25 |
| 21 | A. I have to consult with my counsel on            | 15:55:29 |
| 22 | whether or not that would be an appropriate thing  | 15:55:32 |
| 23 | to do.   | 15:55:34 |
| 24 | Q. Okay. And are you communicating -- and          | 15:55:35 |
| 25 | this is -- you know, we're in this new world of    | 15:55:39 |

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| 1  | remote depositions, so there are some things we     | 15:55:41 |
| 2  | need to sort out for that as well.                  | 15:55:43 |
| 3  | You are not actively communicating with             | 15:55:46 |
| 4  | anybody during the time that I'm asking you these   | 15:55:47 |
| 5  | questions, are you?                                 | 15:55:50 |
| 6  | A. No. I am not communicating with anyone.          | 15:55:51 |
| 7  | Q. Okay. No texting or messaging or anything        | 15:55:54 |
| 8  | of that sort happening?                             | 15:55:57 |
| 9  | A. No. My phone is screen side down on the          | 15:55:59 |
| 10 | desk, and I've cleared my computer.                 | 15:56:02 |
| 11 | Q. Excellent. Thank you.                            | 15:56:07 |
| 12 | And, Mr. Cross, did you prepare any notes           | 15:56:09 |
| 13 | or other materials to assist you with your          | 15:56:12 |
| 14 | testimony today?                                    | 15:56:14 |
| 15 | A. I have a document that I prepared that           | 15:56:17 |
| 16 | includes some facts to help me answer -- I think    | 15:56:20 |
| 17 | that might come up to help me answer your           | 15:56:25 |
| 18 | questions, but that's all I've prepared.            | 15:56:27 |
| 19 | Q. And do you have that with you today, sir?        | 15:56:31 |
| 20 | A. I do, yes.                                       | 15:56:33 |
| 21 | Q. And do you intend to refer to that during        | 15:56:35 |
| 22 | your testimony today?                               | 15:56:39 |
| 23 | A. If -- if you ask me a question and I can't       | 15:56:42 |
| 24 | remember a fact -- a specific fact I may have noted | 15:56:44 |
| 25 | down, then I was planning to refer to that, yes, as | 15:56:50 |

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| 1  | to best answer your questions.                      | 15:56:54 |
| 2  | MR. LOESER: Thank you.                              | 15:56:57 |
| 3  | And, Counsel, Mr. Blume, we would like a            | 15:56:57 |
| 4  | copy of those notes. And we don't need to go off    | 15:57:00 |
| 5  | the record right now to get them, but we would like | 15:57:03 |
| 6  | them as soon as you can get them to us during the   | 15:57:06 |
| 7  | deposition, not after.                              | 15:57:08 |
| 8  | Could you accommodate that request,                 | 15:57:10 |
| 9  | please?   | 15:57:13 |
| 10 | MR. BLUME: Noted.                                   | 15:57:14 |
| 11 | BY MR. LOESER:                                      | 15:57:19 |
| 12 | Q. And since your counsel noted that request        | 15:57:19 |
| 13 | but did not actually tell me he was going to do it, | 15:57:21 |
| 14 | this is something I'll bring up again in a little   | 15:57:24 |
| 15 | bit just to make sure we actually get those notes   | 15:57:27 |
| 16 | during the deposition today. Okay?                  | 15:57:30 |
| 17 | And, Mr. Cross, you indicated that you              | 15:57:33 |
| 18 | currently work for Meta. Is that right?             | 15:57:35 |
| 19 | A. That's correct. I work for Meta -- the           | 15:57:41 |
| 20 | U.K. arm of Meta. Meta Platforms, Inc., has a U.K.  | 15:57:44 |
| 21 | arm.  | 15:57:50 |
| 22 | Q. Okay. And over the course of the day,            | 15:57:51 |
| 23 | I'll be referring to Facebook frequently. And when  | 15:57:53 |
| 24 | I refer to Facebook and ask you a question about    | 15:57:55 |
| 25 | Facebook, will you be drawing any distinction       | 15:57:58 |

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|----|---|----------|
| 1  | between Meta and Facebook when you answer?          | 15:58:00 |
| 2  | A. Whether or not I need to do so may depend        | 15:58:09 |
| 3  | on the context of the question. So I can ask for    | 15:58:11 |
| 4  | clarification if needed.                            | 15:58:16 |
| 5  | Q. Okay. That would be helpful. I                   | 15:58:18 |
| 6  | appreciate that.                                    | 15:58:20 |
| 7  | Mr. Cross, how long have you been employed          | 15:58:21 |
| 8  | at -- and I'm going to say Facebook, and I mean     | 15:58:23 |
| 9  | both Facebook and Meta.                             | 15:58:27 |
| 10 | A. I joined the company in September 2010.          | 15:58:30 |
| 11 | Q. And I'm not going to take the time during        | 15:58:38 |
| 12 | today's deposition to go through your LinkedIn      | 15:58:40 |
| 13 | r  sum   in detail, but I would ask you to describe | 15:58:44 |
| 14 | the major responsibilities that you've had over     | 15:58:47 |
| 15 | your time at Facebook and Meta.                     | 15:58:49 |
| 16 | A. Sure. The first part of my career was            | 15:58:54 |
| 17 | working on the Platform Partnerships team, first as | 15:58:59 |
| 18 | a partner engineer, then as a -- for a short time   | 15:59:04 |
| 19 | as a developer advocate, and then for a short time  | 15:59:07 |
| 20 | as a strategic partnership manager.                 | 15:59:10 |
| 21 | In -- that was from September 2010 to               | 15:59:12 |
| 22 | January 2014.                                       | 15:59:18 |
| 23 | From January 2014 to the end of 2015, I             | 15:59:21 |
| 24 | was a product manager on the Facebook Platform      | 15:59:25 |
| 25 | team.   | 15:59:28 |

|    |   |          |
|----|---|----------|
| 1  | From 2016 to late 2018, I worked on the             | 15:59:31 |
| 2  | Workplace by Facebook -- now just Workplace -- team | 15:59:33 |
| 3  | in London.  | 15:59:38 |
| 4  | From late 2018 to mid-2021, I worked on             | 15:59:41 |
| 5  | the Central Integrity team.                         | 15:59:47 |
| 6  | And since mid-2021, I've been working on a          | 15:59:52 |
| 7  | team called "Central Customer Support."             | 15:59:57 |
| 8  | Q. Okay. Thank you.                                 | 16:00:01 |
| 9  | And what -- what is your degree?                    | 16:00:03 |
| 10 | Do you have a degree after high school?             | 16:00:07 |
| 11 | A. My education, I have a master's in               | 16:00:11 |
| 12 | engineering from the University of Nottingham.      | 16:00:15 |
| 13 | Q. And was that --                                  | 16:00:18 |
| 14 | A. Specifically, it's in -- sorry.                  | 16:00:19 |
| 15 | Q. Sorry. Go ahead.                                 | 16:00:21 |
| 16 | A. Sorry, it's a master's in electronic             | 16:00:22 |
| 17 | engineering from the University of Nottingham.      | 16:00:25 |
| 18 | Q. Thank you. Mr. Cross, have you spoken to         | 16:00:30 |
| 19 | anyone other than your attorneys about your         | 16:00:32 |
| 20 | deposition today?                                   | 16:00:35 |
| 21 | A. I have.  | 16:00:39 |
| 22 | I -- what kind of information are you               | 16:00:41 |
| 23 | looking for there?                                  | 16:00:45 |
| 24 | Q. Sure. I'll ask more specific questions.          | 16:00:47 |
| 25 | Did you speak to colleagues of yours about          | 16:00:50 |

|    |   |          |
|----|---|----------|
| 1  | your testimony today?                               | 16:00:53 |
| 2  | A. I spoke to some people currently employed        | 16:00:55 |
| 3  | by Meta to understand their experiences relating to | 16:00:57 |
| 4  | this matter, yes.                                   | 16:01:05 |
| 5  | Q. And who did you speak with?                      | 16:01:07 |
| 6  | A. I spoke with Eddie O'Neil, Ime Archibong,        | 16:01:11 |
| 7  | Steven Elia, Dan Xu, Allison Hendrix, Eugene        | 16:01:18 |
| 8  | Zarakhovsky, Francisco Varela, and Amit Sangani.    | 16:01:25 |
| 9  | Q. And were those conversations all of              | 16:01:34 |
| 10 | different amounts of time?                          | 16:01:37 |
| 11 | Were there some people you spoke to more            | 16:01:38 |
| 12 | than others?  | 16:01:40 |
| 13 | Describe in a little more detail, if you            | 16:01:41 |
| 14 | can.  | 16:01:43 |
| 15 | A. I spoke to each of those people once for         | 16:01:45 |
| 16 | between 30 and 45 minutes each. The conversation    | 16:01:51 |
| 17 | between Dan and Steven was one conversation with    | 16:01:57 |
| 18 | both of them on the call.                           | 16:02:01 |
| 19 | Q. And were any attorneys present during any        | 16:02:09 |
| 20 | of those conversations?                             | 16:02:11 |
| 21 | A. Yes. Attorneys for Facebook/Meta, were           | 16:02:14 |
| 22 | present for all of those conversations, yes.        | 16:02:18 |
| 23 | Q. Okay. And who were the attorneys that            | 16:02:22 |
| 24 | were present, if you know their names?              | 16:02:23 |
| 25 | A. There were a number of people on the call,       | 16:02:29 |

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| 1  | so I probably can't give you everybody who was     | 16:02:30 |
| 2  | there, but a combination of Rob -- Mr. Blume,      | 16:02:34 |
| 3  | Ian Chen, and Matt -- I'm not sure I'm going to    | 16:02:41 |
| 4  | pronounce this correctly -- Buongiorno.            | 16:02:49 |
| 5  | Sorry, Matt, if you're listening. I                | 16:02:52 |
| 6  | apologize if I got that wrong.                     | 16:02:55 |
| 7  | Q. Thank you. Good enough to identify him.         | 16:02:59 |
| 8  | And, sir, did you review any of the                | 16:03:01 |
| 9  | pleadings or filings that have been made in this   | 16:03:03 |
| 10 | case to prepare for your testimony today?          | 16:03:06 |
| 11 | A. I have, yes.                                    | 16:03:09 |
| 12 | Q. And do you recall what specifically you         | 16:03:11 |
| 13 | reviewed?  | 16:03:13 |
| 14 | A. My attorneys sent over a -- a set of            | 16:03:16 |
| 15 | documents for me to review in advance of this      | 16:03:21 |
| 16 | testimony, and I also received a set of documents, | 16:03:25 |
| 17 | I think, from you folks; around 36 documents, I    | 16:03:28 |
| 18 | think.   | 16:03:34 |
| 19 | Q. And were you sent a stack of documents          | 16:03:34 |
| 20 | from your attorneys?                               | 16:03:36 |
| 21 | Were they assembled in a binder or                 | 16:03:38 |
| 22 | presented to you in some other manner like that?   | 16:03:40 |
| 23 | A. All of the documents I've reviewed to           | 16:03:43 |
| 24 | prepare for today I've reviewed electronically.    | 16:03:46 |
| 25 | Q. Okay. In a single folder?                       | 16:03:50 |



|    |   |          |
|----|---|----------|
| 1  | Were they delivered in a single folder, or          | 16:03:53 |
| 2  | was it a series of separate files?                  | 16:03:55 |
| 3  | A. I received a link to a Google Drive folder       | 16:03:58 |
| 4  | that contained a number of files.                   | 16:04:02 |
| 5  | Q. Thank you.                                       | 16:04:04 |
| 6  | MR. LOESER: And, Counsel, as you know,              | 16:04:08 |
| 7  | we've asked for Facebook to provide us with         | 16:04:09 |
| 8  | identification of the materials given to the        | 16:04:11 |
| 9  | witness to prepare for his testimony, and we would, | 16:04:13 |
| 10 | again, ask that you do that with respect to this    | 16:04:15 |
| 11 | deposition.   | 16:04:18 |
| 12 | (Reporter requested clarification.)                 | 16:04:18 |
| 13 | MR. BLUME: I understood the request.                | 16:04:25 |
| 14 | BY MR. LOESER:                                      | 16:04:28 |
| 15 | Q. And, Mr. Cross, you also indicated that          | 16:04:29 |
| 16 | you reviewed some materials that you believe that   | 16:04:31 |
| 17 | the plaintiffs sent over to you. Is that correct?   | 16:04:33 |
| 18 | A. Yes. That's my understanding. There was          | 16:04:37 |
| 19 | a set of documents that was sent over for me to     | 16:04:41 |
| 20 | read in advance of today's testimony.               | 16:04:46 |
| 21 | Q. And did you review those documents?              | 16:04:49 |
| 22 | A. I did review those documents, yes.               | 16:04:54 |
| 23 | Q. And how long would you say you spent             | 16:05:00 |
| 24 | reviewing the documents that were delivered to you  | 16:05:03 |
| 25 | from the plaintiffs?                                | 16:05:05 |

|    |   |          |
|----|---|----------|
| 1  | A. On the order of eight to ten hours or so.        | 16:05:12 |
| 2  | Q. Good. Thank you.                                 | 16:05:20 |
| 3  | And were those all documents that you had           | 16:05:21 |
| 4  | seen before, or were there some new things in there | 16:05:23 |
| 5  | for you?  | 16:05:26 |
| 6  | A. That list contained documents that I             | 16:05:29 |
| 7  | hadn't seen before.                                 | 16:05:30 |
| 8  | Q. Including documents that were -- that were       | 16:05:33 |
| 9  | produced by Facebook in this case.                  | 16:05:36 |
| 10 | Let me ask that slightly differently.               | 16:05:40 |
| 11 | Including documents that were internal              | 16:05:42 |
| 12 | correspondence and other materials that were        | 16:05:43 |
| 13 | created by Facebook?                                | 16:05:45 |
| 14 | A. That's my understanding, yes.                    | 16:05:48 |
| 15 | MR. LOESER: So if we could mark --                  | 16:05:55 |
| 16 | actually, we don't need to mark. If we could show   | 16:05:56 |
| 17 | Mr. Cross what has been previously marked           | 16:06:00 |
| 18 | Exhibit 330, I believe.                             | 16:06:02 |
| 19 | (Previously marked Exhibit 330 was                  | 16:06:03 |
| 20 | presented to the witness.)                          | 16:06:03 |
| 21 | BY MR. LOESER:                                      | 16:06:04 |
| 22 | Q. This should come up on your screen.              | 16:06:04 |
| 23 | Again, we're at the mercy of the great Internet     | 16:06:07 |
| 24 | here, but you will see the deposition notice that's | 16:06:10 |
| 25 | been served in this case by the plaintiffs on       | 16:06:13 |

|    |   |          |
|----|---|----------|
| 1  | Facebook.   | 16:06:16 |
| 2  | Let me know when you can see that                   | 16:06:17 |
| 3  | document.   | 16:06:19 |
| 4  | MR. BLUME: I believe that's Exhibit 332.            | 16:06:26 |
| 5  | MR. LOESER: We have it as Exhibit 330.              | 16:06:29 |
| 6  | Prior Exhibit 330, yeah. This isn't a new exhibit,  | 16:06:34 |
| 7  | Rob, sorry. This is -- it was marked during         | 16:06:38 |
| 8  | Ms. Hendrix's deposition. I'll try and make         | 16:06:40 |
| 9  | that --   | 16:06:43 |
| 10 | MR. BLUME: On the screen that I'm looking           | 16:06:44 |
| 11 | at, it says "332" on the exhibit sticker.           | 16:06:45 |
| 12 | MR. LOESER: Refresh your screen. My                 | 16:06:52 |
| 13 | technology expert tells me that you need to refresh | 16:06:55 |
| 14 | your screen.  | 16:06:58 |
| 15 | It should be corrected now.                         | 16:07:05 |
| 16 | MR. BLUME: Yes, with thanks to your                 | 16:07:08 |
| 17 | technology expert. Appreciate it.                   | 16:07:09 |
| 18 | BY MR. LOESER:                                      | 16:07:12 |
| 19 | Q. So, Mr. Cross, you're looking at what's          | 16:07:12 |
| 20 | called "Plaintiff's Second Amended Notice of        | 16:07:16 |
| 21 | Deposition of Defendant Facebook, Inc., Pursuant to | 16:07:18 |
| 22 | Federal Rule of Civil Procedure 30(b)(6)."          | 16:07:20 |
| 23 | Have you seen this notice before?                   | 16:07:25 |
| 24 | A. Yes.   | 16:07:29 |
| 25 | Q. And you understand that you have been            | 16:07:31 |

|    |  |          |
|----|--|----------|
| 1  | designated to testify as to certain topics in      | 16:07:33 |
| 2  | response to this notice.                           | 16:07:36 |
| 3  | A. That's my understanding, yes.                   | 16:07:40 |
| 4  | Q. Okay. And if you could turn -- attached         | 16:07:42 |
| 5  | to the notice, there is an appendix. And if you    | 16:07:45 |
| 6  | turn all the way to page 13, or click through to   | 16:07:48 |
| 7  | that page or whatever you would need to do on your | 16:07:51 |
| 8  | screen. I'm turning to page 13, but ...            | 16:07:54 |
| 9  | A. I have page 13 in front of me.                  | 16:08:02 |
| 10 | Q. Okay. And on page 13, there are three           | 16:08:04 |
| 11 | topics. The bottom two, there's Topic 6 and        | 16:08:07 |
| 12 | Topic 7.   | 16:08:13 |
| 13 | Do you see that?                                   | 16:08:14 |
| 14 | A. I see that.                                     | 16:08:14 |
| 15 | Q. And is it your understanding that you have      | 16:08:15 |
| 16 | been designated to testify on behalf of Facebook   | 16:08:17 |
| 17 | with regard to Topics 6 and 7?                     | 16:08:23 |
| 18 | A. That's correct.                                 | 16:08:27 |
| 19 | Q. Okay. And as we get into these topics in        | 16:08:28 |
| 20 | more detail, your counsel will probably want to    | 16:08:31 |
| 21 | clarify the -- the particular matters within those | 16:08:34 |
| 22 | paragraphs that you are prepared to testify about, | 16:08:37 |
| 23 | but we can get to that later.                      | 16:08:40 |
| 24 | But for present purposes, what's important         | 16:08:43 |
| 25 | is that these are the two topics that you          | 16:08:46 |

|    |   |          |
|----|---|----------|
| 1  | understand that you are here to testify about.    | 16:08:48 |
| 2  | A. Those are the two topics I understand I'm      | 16:08:53 |
| 3  | here to testify about.                            | 16:08:55 |
| 4  | Q. And do you understand that by being            | 16:08:58 |
| 5  | designated to testify about these topics, you are | 16:09:00 |
| 6  | authorized to speak for Meta/Facebook on the      | 16:09:04 |
| 7  | specified matters?                                | 16:09:08 |
| 8  | A. That's -- that's my understanding, yes.        | 16:09:11 |
| 9  | Q. And you understand that your testimony,        | 16:09:14 |
| 10 | which is under oath, is binding on Meta.          | 16:09:15 |
| 11 | A. That's my understanding, yes.                  | 16:09:20 |
| 12 | Q. Okay. And I'm going to use Meta and            | 16:09:22 |
| 13 | Facebook interchangeably here. I mean the same    | 16:09:24 |
| 14 | thing every time, and, like you said before, if   | 16:09:26 |
| 15 | there's a distinction that needs to be drawn, you | 16:09:29 |
| 16 | are going to draw that for me.                    | 16:09:32 |
| 17 | A. I will ask for clarification where I think     | 16:09:33 |
| 18 | one is needed if the entities need to be          | 16:09:36 |
| 19 | distinguished, yes.                               | 16:09:38 |
| 20 | Q. And, sir, do you understand that the time      | 16:09:40 |
| 21 | period at issue in this litigation is 2007 to the | 16:09:42 |
| 22 | present?  | 16:09:46 |
| 23 | A. That's my understanding, yes.                  | 16:09:48 |
| 24 | Q. Okay. So all of my questions will concern      | 16:09:50 |
| 25 | that time period unless I specify something       | 16:09:53 |

1 narrower. 16:09:55

2 Is that fair? 16:09:56

3 A. That's fair. 16:09:57

4 Q. So before we get into the specifics of 16:10:06

5 each of these topics, I think it would be important 16:10:08

6 to have a conversation about basic terminology to 16:10:10

7 make sure that when you testify, the record is 16:10:13

8 clear as to what you're saying. 16:10:14

9 Is that fair? 16:10:16

10 A. I'm happy to make sure we can align on 16:10:18

11 terminology, yes. 16:10:22

12 Q. Okay. Some of it will seem very basic to 16:10:23

13 you, but trust me, it's important for the court and 16:10:25

14 for the record and, if there's a jury in this case, 16:10:27

15 for the jury to understand and hear from Facebook 16:10:30

16 what these terms mean. 16:10:33

17 So if you'll bear with me, I'll run 16:10:34

18 through some of these basic concepts. 16:10:36

19 To start, what is an "app"? 16:10:39

20 A. An app is an entity in Facebook's systems 16:10:43

21 that has the ability to access information via the 16:10:53

22 Graph API. 16:11:00

23 There was a broader definition of "app" 16:11:01

24 that is pursuant to mobile applications and so on, 16:11:05

25 but an app in the Facebook ecosystem is a -- an 16:11:08

1       entity that -- that has an app ID and can access       16:11:13

2       the Graph API in some way.       16:11:18

3             Q.   And there are third-party apps and       16:11:22

4       Facebook apps.   Correct?       16:11:24

5             A.   Can you help me understand what you mean       16:11:28

6       by "third-party apps"?       16:11:29

7             Q.   Yeah.   I'm glad you asked.       16:11:31

8                 So Facebook creates apps itself for the       16:11:34

9       platform.   Right?       16:11:36

10            A.   There are some apps that Facebook       16:11:41

11       engineers, Facebook, Inc., would have built that       16:11:45

12       may call the Platform APIs, yes.       16:11:49

13            Q.   And then there are -- I'll call them       16:11:54

14       "third parties," but entities not owned or       16:11:57

15       affiliated with Facebook that also create apps.       16:11:59

16            A.   The Facebook Platform allowed developers       16:12:04

17       to create -- third parties to create applications       16:12:07

18       on the Facebook Platform, yes.       16:12:10

19            Q.   Okay.   And so over the course of our       16:12:12

20       conversation today, when I refer to "third-party       16:12:14

21       apps," that is what I will be referring to.       16:12:16

22                 Is that fair?       16:12:19

23            A.   So to be clear, you're referring to a       16:12:20

24       third party that, in this context, is an       16:12:23

25       application developed by an entity other than       16:12:28

|    |   |          |
|----|---|----------|
| 1  | Facebook, Inc., or Meta Platforms?                  | 16:12:31 |
| 2  | Q. Yes. Thank you. That's a good                    | 16:12:36 |
| 3  | clarification.                                      | 16:12:38 |
| 4  | And you used some other terms in your               | 16:12:39 |
| 5  | answer, and I guess we may as well define those as  | 16:12:42 |
| 6  | well.   | 16:12:46 |
| 7  | What is the "Facebook Platform"?                    | 16:12:46 |
| 8  | A. The Facebook Platform is a collection of         | 16:12:50 |
| 9  | technologies that enable developers to build        | 16:12:57 |
| 10 | applications that could interact with the Facebook  | 16:13:01 |
| 11 | product, Facebook.com or the Facebook product as    | 16:13:08 |
| 12 | a -- as a regular user would think of it.           | 16:13:14 |
| 13 | Q. And help me understand: What is the              | 16:13:19 |
| 14 | "Facebook product"?                                 | 16:13:21 |
| 15 | A. So the Facebook product, by that, I'm            | 16:13:25 |
| 16 | referring to, you know, the website Facebook.com    | 16:13:28 |
| 17 | and the Facebook iOS and Android apps, for example, | 16:13:32 |
| 18 | and the experience you have when using the          | 16:13:39 |
| 19 | Facebook.com website or the Facebook mobile apps on | 16:13:43 |
| 20 | iOS and Android.                                    | 16:13:48 |
| 21 | Q. Thank you for that.                              | 16:13:52 |
| 22 | And, sir, what is the "Facebook                     | 16:13:54 |
| 23 | Social Graph"?                                      | 16:13:55 |
| 24 | A. My understanding is that the Social Graph        | 16:13:57 |
| 25 | would be a term used to explain the relationships   | 16:13:59 |



1       between users of the Facebook product; who is       16:14:06

2       friends with who.       16:14:11

3             Q.   Okay.   And we'll have some more specific       16:14:13

4       questions about how that functions later.       16:14:16

5             What is an "API"?       16:14:18

6             A.   An API, which stands for application       16:14:24

7       programming interface, is a way for -- a technical       16:14:27

8       means by which information can be exchanged between       16:14:34

9       entities.       16:14:37

10            Q.   And are you familiar with the term       16:14:42

11       "high-signal APIs"?       16:14:44

12            A.   I'm not familiar with that term.       16:14:47

13            Q.   Are some APIs considered more sensitive in       16:14:51

14       terms of the information they provide than others?       16:14:53

15            A.   Can you help me understand in which       16:14:58

16       context you are referring to?   My answer with APIs       16:15:00

17       was a general concept.       16:15:03

18            Q.   Sure.   In the context of an app obtaining       16:15:06

19       information about Facebook users through APIs, are       16:15:10

20       there some APIs that are considered more sensitive       16:15:13

21       than others in terms of the information that's       16:15:17

22       being gathered?       16:15:22

23            A.   So I would -- yeah, I think it's fair to       16:15:27

24       say that there are some APIs which are considered       16:15:31

25       more sensitive than others, yes.       16:15:37

1 Q. And why is that? What is the type of 16:15:41  
2 information that would be considered more sensitive 16:15:43  
3 in that context? 16:15:46

4 A. So it depends on the definition of 16:15:48  
5 "sensitive." 16:15:52

6 Can you help me understand what you mean 16:15:52  
7 by "sensitive"? 16:15:54

8 Q. Yes. I mean about the Facebook user data 16:15:55  
9 and information that is accessed via an API. 16:15:57

10 Are there some APIs that have the ability 16:16:01  
11 to access what Facebook has considered more 16:16:03  
12 sensitive information about its users? 16:16:07

13 A. So good example of a -- of an API that I 16:16:11  
14 think is -- would be considered sensitive is an API 16:16:15

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

22 Q. Okay. And help me understand why that 16:16:46  
23 would be considered sensitive. 16:16:50

24 Would that be considered highly sensitive 16:16:52  
25 in the Facebook terminology? 16:16:55

1           A. I'm not sure what you would be referring           16:16:58  
2           to with -- by "highly sensitive." I'm not aware of           16:16:59  
3           a specific set of things that would be classed as           16:17:05  
4           "highly sensitive."           16:17:09  
5           Q. Okay. How about friends permissions           16:17:12  
6           and/or -- friend-related APIs?           16:17:16  
7           Are you familiar with friend-related APIs?           16:17:19  
8           A. Can you understand -- just represent --           16:17:23  
9           just for clarification, can you help me understand           16:17:26  
10          what you mean by "friend-related APIs"?           16:17:28  
11          Q. Sure. And we'll get into this more -- in           16:17:30  
12          more detail later as well.           16:17:33  
13          But APIs that provide access to the           16:17:35  
14          information about a Facebook user's friends, are           16:17:36  
15          those referred to by Facebook as "friends           16:17:39  
16          permissions" or "friends APIs"?           16:17:42  
17          A. There was a set of permissions that           16:17:46  
18          were -- were referred to as the friend permissions,           16:17:48  
19          yes.           16:17:52  
20          Q. And did Facebook consider those           16:17:54  
21          permissions to be sensitive?           16:17:56  
22          A. I think -- I'm not sure -- I'm not sure if           16:18:01  
23          there's a way to specifically answer that. Those           16:18:08  
24          were a set of permissions that were available at           16:18:14  
25          one time on the Platform and are no longer           16:18:16

1 generally available. 16:18:21

2 Q. And, again, from the perspective of 16:18:24

3 Facebook, did Facebook discuss those permissions in 16:18:26

4 terms of them being sensitive or highly sensitive? 16:18:31

5 A. They were certainly discussed in the 16:18:39

6 context of being a set of permissions worth 16:18:41

7 discussing. 16:18:47

8 They may have been discussed at times as 16:18:48

9 sensitive. I'm not sure about whether or not they 16:18:51

10 were discussed as highly sensitive. There's no 16:18:53

11 official designation for those permissions that was 16:18:55

12 consistent across the company. 16:19:00

13 Q. And we're about to move on to some other 16:19:03

14 topics, but can you give me an example of a 16:19:06

15 permission that Facebook did refer to as "highly 16:19:09

16 sensitive"? 16:19:11

17 A. I can't give you an example here today of 16:19:14

18 a permission or a -- do you -- from reviewing the 16:19:16

19 documents I've reviewed, I don't recall a set of 16:19:21

20 APIs or permissions that would have been 16:19:24

21 considered -- referred to as "highly sensitive." 16:19:26

22 It's possible that they were referred to 16:19:29

23 using that term by some people, but I don't -- I 16:19:31

24 don't think there was an official designation in 16:19:35

25 any way. 16:19:38



|    |  |          |
|----|--|----------|
| 1  | benefit of the court reporter.                     | 16:21:05 |
| 2  | Understood?  | 16:21:07 |
| 3  | A. That's good. That's good with me.               | 16:21:08 |
| 4  | Q. So there was a few other terms that you         | 16:21:10 |
| 5  | mentioned that I want to make sure we understand   | 16:21:12 |
| 6  | and I've used as well.                             | 16:21:14 |
| 7  | One is a "permission."                             | 16:21:16 |
| 8  | In the context of an API, what is a                | 16:21:18 |
| 9  | "permission"?                                      | 16:21:20 |
| 10 | A. In the context of -- can you help me            | 16:21:23 |
| 11 | understand, "in the context of an API"?            | 16:21:26 |
| 12 | Q. Or APIs generally.                              | 16:21:32 |
| 13 | A. So my understanding would be that in the        | 16:21:35 |
| 14 | context of an API generally, a permission would    | 16:21:38 |
| 15 | refer to a way for users -- users of the API or    | 16:21:42 |
| 16 | consumers or integration -- integrators of the API | 16:21:48 |
| 17 | to determine what information was available over   | 16:21:52 |
| 18 | that interface.                                    | 16:21:59 |
| 19 | Q. And speaking specifically about the -- the      | 16:22:03 |
| 20 | entities that were accessing information on the    | 16:22:07 |
| 21 | Facebook Platform, does "permission" refer to the  | 16:22:10 |
| 22 | grant of access by Facebook to APIs?               | 16:22:13 |
| 23 | A. "Permissions" in the Facebook Platform          | 16:22:17 |
| 24 | context refers to permissions that a user, a       | 16:22:22 |
| 25 | Facebook user, would grant an application to which | 16:22:27 |

1 information the application would then have access 16:22:34  
2 to after the user had given permission. 16:22:36

3 Q. And that brings me to my next question, 16:22:41  
4 which is capability. 16:22:44

5 In the context of APIs, what is the 16:22:46  
6 definition of "capabilities" or a "capability"? 16:22:49

7 A. Again, do you mean in the context of an 16:22:54  
8 API generally, or -- 16:22:56

9 Q. Yes. 16:22:59

10 A. So in the context of an API generally, 16:23:01  
11 "capability" doesn't have an industry-standard 16:23:04  
12 meaning. 16:23:07

13 Q. How does Facebook generally use that term? 16:23:13

14 A. In the context -- in the context of the 16:23:18  
15 Facebook Platform, "capability" refers to a set of 16:23:21  
16 features that would be available to some apps on 16:23:30  
17 the Facebook Platform, and that would have enabled 16:23:37  
18 a range of functionality. 16:23:41

19 Q. And specifically, when talking about APIs, 16:23:44  
20 would a "capability" relate to the entity's ability 16:23:47  
21 to have access to certain APIs on the Platform? 16:23:54

22 A. Capabilities would -- would modify the -- 16:24:00  
23 the behavior of the Facebook Platform in a number 16:24:06  
24 of different ways. 16:24:08

25 Q. And, again, I'm trying to understand how 16:24:11

1 the term is used in the context of Facebook's 16:24:13  
 2 discussions of what APIs a third party has access 16:24:15  
 3 to. 16:24:19

4 Does that help in any way to flesh out 16:24:21  
 5 what it means? 16:24:25

6 A. So a capability -- my previous answer, I 16:24:27  
 7 think, is accurate in that a capability is a way 16:24:30  
 8 for the standard behavior of the Facebook Platform 16:24:34  
 9 to be modified in some way. 16:24:37

10 Q. And I'm -- I apologize for struggling to 16:24:42  
 11 understand this, but -- so let's assume that an app 16:24:44  
 12 or a developer wants to have access to friend 16:24:49  
 13 data-related permissions. Okay? 16:24:53

14 Can we start with that premise? 16:24:59

15 And I'll ask a question based on that 16:25:03  
 16 premise: 16:25:05

17 Is there a capability that would be 16:25:06  
 18 provided to that developer that would enable access 16:25:07  
 19 to those permissions -- or to those APIs? 16:25:10

20 A. Can you help me understand what time frame 16:25:15  
 21 you're referring to? 16:25:17

22 Q. Sure. Any time between 2007 and the 16:25:21  
 23 present. 16:25:24

24 A. So I think the answer depends on the time. 16:25:28  
 25 In -- you know, the early part of that time period, 16:25:34



1       let's say 2012, access to the friend permissions       16:25:40  
2       was available to all applications on the Facebook       16:25:47  
3       Platform.       16:25:51  
4               Later on, the friend permissions were not       16:25:53  
5       available to every app on the Platform, and access       16:25:58  
6       to those would have required a modification to the       16:26:03  
7       standard API behavior. And that would have been       16:26:06  
8       governed by capability.       16:26:10  
9               Q. Thank you. You've helped me understand       16:26:12  
10       any number of documents I have reviewed now.       16:26:14  
11       That's helpful information.       16:26:17  
12               We can move on.       16:26:20  
13               Do you understand what "read permission       16:26:22  
14       APIs" are?       16:26:24  
15               A. So there's two different concepts that are       16:26:28  
16       worth picking apart: There's the concept of       16:26:31  
17       permissions, and there's a concept of APIs, and       16:26:35  
18       those are separate concepts.       16:26:38  
19               So I'm not sure how to answer the       16:26:44  
20       question.       16:26:46  
21               Q. Let me break it down. I've seen reference       16:26:47  
22       to "read stream APIs," for example.       16:26:50  
23               Are you familiar with those?       16:26:52  
24               A. I am familiar with the -- the concept of a       16:26:56  
25       read stream API, yes.       16:26:59

|    |   |          |
|----|---|----------|
| 1  | Q. Okay. What is that?                              | 16:27:02 |
| 2  | A. In the context of the Facebook Platform?         | 16:27:07 |
| 3  | Is that what you're asking about?                   | 16:27:09 |
| 4  | Q. Yes.   | 16:27:11 |
| 5  | A. My understanding is that the read stream         | 16:27:13 |
| 6  | API would allow an application to access a --       | 16:27:16 |
| 7  | the -- an authorized -- a user who -- let me start  | 16:27:20 |
| 8  | again to make sure I'm framing this correctly for   | 16:27:24 |
| 9  | you.  | 16:27:26 |
| 10 | The read stream API would allow an                  | 16:27:28 |
| 11 | application to access a user's Newsfeed. In order   | 16:27:31 |
| 12 | to access that API, the user would have to give the | 16:27:35 |
| 13 | application permission to do so.                    | 16:27:41 |
| 14 | Q. And what about Social Context APIs? What         | 16:27:45 |
| 15 | are those?  | 16:27:50 |
| 16 | A. My understanding is a Social Context API         | 16:27:54 |
| 17 | refers to an API that helped applications           | 16:27:57 |
| 18 | understand the relationships between two users of   | 16:28:02 |
| 19 | the application.                                    | 16:28:06 |
| 20 | Q. Two users, or any number of users?               | 16:28:10 |
| 21 | A. My understanding is the Social Context API       | 16:28:15 |
| 22 | referred to social context between two app-using    | 16:28:17 |
| 23 | users.  | 16:28:22 |
| 24 | Q. And we'll get into this in more detail           | 16:28:25 |
| 25 | later, but both with read stream and social context | 16:28:28 |

1 APIs, the information that the app or developer 16:28:31  
2 would access would include friend information for 16:28:36  
3 the users that authorized the app or developer to 16:28:38  
4 have access. Right? 16:28:43

5 A. Sorry. Can you restate the question? I 16:28:44  
6 want to make sure I fully understand. 16:28:46

7 Q. Sure. You described what a read stream 16:28:48  
8 permission was, and you described what a social 16:28:50  
9 context API was. 16:28:53

10 Both of those APIs, if authorized by a 16:28:55  
11 user, would provide access to friends information 16:28:57  
12 of that user. Right? 16:28:59

13 A. The read stream API would grant access to 16:29:04  
14 an app using a person's Newsfeed. A Newsfeed on 16:29:07  
15 Facebook typically contains content posted by that 16:29:13  
16 user's friends. 16:29:17

17 Q. Okay. And how about the social context 16:29:18  
18 API? Would that do the same? 16:29:19

19 A. I'd have to review the API documentation 16:29:24  
20 for -- for the -- if there was a specific API 16:29:26  
21 you're referring to, exactly how it behaved. 16:29:31

22 Q. And that's a helpful qualification. 16:29:36

23 Is there a set of -- or a place where 16:29:40  
24 documentation of APIs is stored so that if Facebook 16:29:43  
25 wanted to understand the specific information that 16:29:46

1       that API made available, it could go to that set       16:29:49

2       and find the answer?       16:29:52

3             A.   The Facebook developer website is       16:29:56

4       typically where API documentation is stored and       16:29:58

5       published.       16:30:02

6             Q.   And that's true for any API that has ever       16:30:04

7       existed, or simply for the active APIs?       16:30:08

8             A.   That -- the Facebook developer website is       16:30:16

9       typically for APIs that are available -- publicly       16:30:18

10      available.       16:30:22

11             And so not every API that's ever existed       16:30:23

12      would necessarily have a documentation -- would       16:30:26

13      have a document on the Facebook developer website.       16:30:30

14             Q.   Okay.   So where would one go to find       16:30:33

15      information on every API that ever existed?       16:30:35

16             A.   The -- I'm not sure every API that ever       16:30:42

17      existed necessarily had a -- a document -- an       16:30:46

18      associated document written about it.       16:30:51

19             The source of truth for which APIs existed       16:30:53

20      and so on would have been the Facebook code base       16:30:57

21      itself.       16:31:01

22             Q.   And how would one go about searching that       16:31:03

23      for information about a defunct API?       16:31:06

24             A.   There are internal tools at Facebook that       16:31:10

25      allow user search for code which existed in the       16:31:13

|    |  |          |
|----|--|----------|
| 1  | Facebook code base.                                | 16:31:19 |
| 2  | Q. And what are those internal tools?              | 16:31:21 |
| 3  | A. I am not sure of the name of the internal       | 16:31:27 |
| 4  | tools. I'd have to get back to you on -- on the    | 16:31:31 |
| 5  | specific name of the tool.                         | 16:31:35 |
| 6  | MR. LOESER: And, Counsel, if you could             | 16:31:39 |
| 7  | get back to us with that information, I'd          | 16:31:40 |
| 8  | appreciate it.                                     | 16:31:42 |
| 9  | MR. BLUME: Noted.                                  | 16:31:47 |
| 10 | BY MR. LOESER:                                     | 16:31:48 |
| 11 | Q. And, Mr. Cross, what is a "private API"?        | 16:31:50 |
| 12 | A. Can you help me understand the context in       | 16:31:58 |
| 13 | which you're asking the question?                  | 16:32:01 |
| 14 | Q. Sure. In the context of email and other         | 16:32:03 |
| 15 | materials reviewed -- that you reviewed to prepare | 16:32:05 |
| 16 | for this deposition, the term "private API" is     | 16:32:09 |
| 17 | frequently used.                                   | 16:32:14 |
| 18 | Do you have an understanding of what is            | 16:32:15 |
| 19 | meant by that at Facebook?                         | 16:32:17 |
| 20 | A. My understanding of the term "private API"      | 16:32:19 |
| 21 | is that it would be an API that was not generally  | 16:32:22 |
| 22 | available to most applications on the Facebook     | 16:32:27 |
| 23 | Developer Platform.                                | 16:32:33 |
| 24 | Q. Okay. So explain to me what the                 | 16:32:36 |
| 25 | difference is between a private API and a          | 16:32:38 |

1 capability. 16:32:41

2 A. So a "private API" would refer to a 16:32:42

3 specific API method, generally, that could be 16:32:47

4 accessed by developers. 16:32:51

5 A "capability" is the means by which 16:32:53

6 access to that API is governed. 16:32:56

7 Q. We discussed how APIs function and how 16:33:07

8 APIs provide access to developers or other entities 16:33:09

9 about information about Facebook users. 16:33:16

10 Were there any other technical means by 16:33:21

11 which Facebook shared information about its users 16:33:24

12 with developers or other entities? 16:33:25

13 A. The Graph API was the -- was a primary way 16:33:31

14 that information would be exchanged with third 16:33:36

15 parties. It's possible at the company there were 16:33:40

16 other ways for people to exchange information with 16:33:44

17 third parties; email, for example. But the 16:33:49

18 Graph API would have been one of the common ways to 16:33:55

19 programmatically exchange information. 16:33:58

20 Q. And can you identify any other ways to 16:34:01

21 programmatically exchange information? 16:34:04

22 A. I don't have the ability to -- to know 16:34:11

23 every form of information interchange ever used 16:34:15

24 by -- by the company, so I -- I don't feel I can 16:34:20

25 specify other -- any specific other systems. The 16:34:26

1 Graph API would have been a common one. 16:34:31

2 There were other APIs in existence over 16:34:34

3 time. Two examples would be the REST API and 16:34:38

4 something called FQL. 16:34:45

5 Q. And explain, if you can, what those two 16:34:49

6 systems are. 16:34:51

7 A. So the REST API was a -- a mechanism, a 16:34:53

8 form of API used by the Facebook Platform to 16:34:59

9 exchange information with third parties that 16:35:03

10 pre-existed the Graph API, and the two were in use 16:35:05

11 simultaneously for a period. 16:35:12

12 FQL -- 16:35:14

13 Q. Let me pause you there. Sorry to 16:35:16

14 interrupt, but what period did that exist, and when 16:35:17

15 was it overlapping? 16:35:21

16 A. The REST API, my understanding, was the 16:35:24

17 original form of the Facebook Developer Platform. 16:35:28

18 So my understanding is that was launched in 2007. 16:35:30

19 And my understanding is the REST API was 16:35:37

20 deprecated in -- I'm not sure of the specific date, 16:35:39

21 but my understanding is around the time that 16:35:43

22 Graph API Version 1.1 or 1.2 was -- was announced. 16:35:46

23 But that -- we can follow up with a 16:35:53

24 specific because I want to make sure I don't give 16:35:57

25 you the wrong answer. 16:36:00

1 Q. Sure. And do you have a rough idea of 16:36:01  
2 what year the Graph API came into being? 16:36:03  
3 A. The Graph API was launched in April 2010. 16:36:07  
4 Q. So we've touched on the Graph API 16:36:17  
5 Version 1, and that's another important term. I 16:36:20  
6 want to make sure I understand that. 16:36:23  
7 So Graph API version, was it 1.0 or 1.1? 16:36:26  
8 What was the very first version of that 16:36:31  
9 system? 16:36:33  
10 A. The Graph API was launched in April 2010. 16:36:35  
11 At the time, it was just called the "Graph API." 16:36:39  
12 Q. Okay. And I gather from your LinkedIn 16:36:42  
13 résumé, you had something to do with the initial 16:36:45  
14 development of the Graph API version zero, I guess, 16:36:47  
15 whatever you call it. Is that right? 16:36:53  
16 A. So the version of the API that was 16:36:55  
17 originally launched in April 2010 is what later 16:36:57  
18 became known as Version 1. 16:37:00  
19 I was actually not involved in the 16:37:03  
20 development of that. It was launched in 16:37:05  
21 April 2010. I joined the company in 16:37:07  
22 September 2010. 16:37:11  
23 Q. Okay. So let's -- let me make sure I 16:37:15  
24 understand the different versions. 16:37:17  
25 It starts with Graph API, period, and then 16:37:19



|    |   |          |
|----|---|----------|
| 1  | it evolved into what?                               | 16:37:22 |
| 2  | What were the different evolutions of               | 16:37:24 |
| 3  | that, of the Graph API?                             | 16:37:26 |
| 4  | A. It was called just the "Graph API" from --       | 16:37:29 |
| 5  | from launch in April 2010. That -- that, kind of,   | 16:37:32 |
| 6  | version later became known as "API Version 1" when  | 16:37:38 |
| 7  | a new version that was referred to as               | 16:37:43 |
| 8  | "API Version 2" was launched in April 2014.         | 16:37:45 |
| 9  | Q. And in the evolution from Version 1 and          | 16:37:52 |
| 10 | Version 2, were there specific reasons why Facebook | 16:37:55 |
| 11 | made changes?                                       | 16:37:59 |
| 12 | A. The Graph API, the original version of the       | 16:38:02 |
| 13 | Graph API, evolved constantly over time as well.    | 16:38:06 |
| 14 | So there were changes being made to the -- to the   | 16:38:10 |
| 15 | Graph API from launch for a wide range of reasons.  | 16:38:14 |
| 16 | Q. Okay. And, specifically, in the changes          | 16:38:20 |
| 17 | from Version 1 to Version 2, what were the          | 16:38:22 |
| 18 | reasons -- what were the major changes that were    | 16:38:24 |
| 19 | made?   | 16:38:27 |
| 20 | A. It was a large number of changes launched        | 16:38:29 |
| 21 | as part of API Version 2.                           | 16:38:33 |
| 22 | How much -- how much depth would you like           | 16:38:37 |
| 23 | me to go into?                                      | 16:38:39 |
| 24 | Q. Well, let me ask it this way: What were          | 16:38:41 |
| 25 | the problems that Facebook was trying to solve in   | 16:38:44 |

1 the transition from Version 1 to Version 2? 16:38:47

2 A. There was a -- also a whole -- also a 16:38:51

3 whole range of problems that -- that we were 16:38:53

4 attempting to solve. 16:38:56

5 Can you help me understand, like, what you 16:38:58

6 are looking for? 16:39:00

7 Q. Well, let's start at the -- are you 16:39:01

8 familiar with the expression "the 30,000-foot 16:39:03

9 level"? 16:39:07

10 A. I've heard of that term, yes. 16:39:08

11 Q. Okay. So let's think about it in terms of 16:39:10

12 at the 30,000-foot level if there were major issues 16:39:13

13 that Facebook was attempting to solve through that 16:39:17

14 transition, if any of those come to mind. 16:39:19

15 A. I'll do my best to explain some. 16:39:23

16 One was that the original way that 16:39:27

17 breaking changes had been made in the Facebook 16:39:32

18 Developer Platform was in an app configuration. 16:39:34

19 So in your app, configuring your app 16:39:39

20 settings, that was a workable mechanism when the 16:39:42

21 Facebook Platform was primarily called by 16:39:48

22 server-side applications. 16:39:52

23 In the early 2010s, the developer 16:39:55

24 ecosystem moved more and more to mobile 16:40:00

25 applications, which meant developers' code running 16:40:02

1 on devices, which meant that it was harder for them 16:40:08

2 to centrally control changes to the API. 16:40:12

3 And so one of the big problems that 16:40:15

4 Facebook was trying to solve with the launch of 16:40:18

5 API Version 2 was the introduction of versioning 16:40:21

6 itself; to allow developers to specify the API 16:40:23

7 behavior they wanted when calling the API. 16:40:28

8 Q. Okay. And can you think any of other 16:40:32

9 major problems Facebook was attempting to resolve 16:40:34

10 with Graph API Version 2? 16:40:39

11 A. Another thing that was being solved with 16:40:45

12 Version 2 is the limiting of the amount of data 16:40:48

13 that was available via the API. 16:40:53

14 Q. And why did Facebook want to do that? 16:40:58

15 A. It was a range of reasons why Facebook was 16:41:02

16 attempting to alter the amount of information that 16:41:07

17 was available via the API. 16:41:10

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 that decision. 16:41:39

25 Q. And when Facebook heard from users about 16:41:40

1       their concerns, were those concerns with respect to       16:41:43  
2       any particular types of user information that was       16:41:48  
3       being made available to third parties?       16:41:51

4             A.   There was a -- a range of concerns.   One       16:41:55  
5       of them was the ability for apps to access friends       16:41:59  
6       information.       16:42:04

7             Q.   And was another reason to limit the amount       16:42:07  
8       of user information made available to developers a       16:42:10  
9       desire by Facebook to better profit from the data       16:42:17  
10      it collected about users by giving away less to       16:42:20  
11      developers for free?       16:42:23

12            A.   Can you repeat the question?       16:42:28

13                    Sorry, I want to make sure I understand.       16:42:29

14            Q.   Sure.   It took me great mental acuity to       16:42:31  
15      say it in the first place, so how about if I       16:42:36  
16      just -- if we read it back and see, if you heard it       16:42:38  
17      a second time, it makes better sense.   It might       16:42:41  
18      just be a bad question, but let me look and see.       16:42:44  
19      And I can read it.       16:42:47

20                    Was another reason to limit the amount of       16:42:48  
21      user information made available to developers a       16:42:50  
22      desire by Facebook to better profit from the data       16:42:53  
23      it collected about users by giving away less of       16:42:55  
24      that information for free?       16:42:59

25            A.   Having spoken to people and read       16:43:05

1 documents, that's -- that's not a concern that was, 16:43:08  
2 as I understand it, front and center in the 16:43:11  
3 decision-making. 16:43:14

4 Q. Was that a concern that was discussed or 16:43:15  
5 expressed at times, however? 16:43:17

6 A. I have recalled seeing documents that 16:43:23  
7 were -- there were a number of discussions about 16:43:28  
8 how to balance the equities between users, 16:43:32  
9 developers, and Facebook -- in this case, the 16:43:36  
10 company Meta but also the application -- as to how 16:43:39  
11 the Facebook Developer Platform was being used. 16:43:43

12 Q. Thank you. Do you know, when was the 16:43:50  
13 first time or time period that Facebook heard 16:43:53  
14 concerns expressed by users about the amount of 16:43:58  
15 their information that was being made available to 16:44:01  
16 third parties? 16:44:04

17 A. I don't know -- I'm not able to sense 16:44:09  
18 specifically when those concerns began to be heard. 16:44:14

19 I am aware that there was some -- some 16:44:18  
20 research done, and there were some discussions 16:44:20  
21 happening in -- in the 2012 and 2013 time period; 16:44:23  
22 but exactly, you know, when this was -- was -- 16:44:28  
23 began to be discussed is hard for me to say with 16:44:36  
24 specificity. 16:44:38

25 Q. And then Graph API Version 2 became 16:44:39

|    |   |          |
|----|---|----------|
| 1  | operative when?                                     | 16:44:43 |
| 2  | A. Graph API Version 2 was made broadly             | 16:44:48 |
| 3  | available on April the 30th, 2015 -- sorry,         | 16:44:53 |
| 4  | April the 30th, 2014.                               | 16:44:56 |
| 5  | Q. Okay. So during the time that Facebook           | 16:44:58 |
| 6  | users expressed some concern -- you think sometime  | 16:45:03 |
| 7  | starting in around 2012 -- and those concerns       | 16:45:06 |
| 8  | were -- or were those concerns addressed in         | 16:45:09 |
| 9  | Graph API Version 2?                                | 16:45:13 |
| 10 | A. API Version 2 contained a number of              | 16:45:20 |
| 11 | changes designed to -- to satisfy some of those     | 16:45:22 |
| 12 | concerns.   | 16:45:26 |
| 13 | Q. And those changes were implemented in --         | 16:45:28 |
| 14 | in 2015.  | 16:45:31 |
| 15 | A. The -- API Version 2, you know, was              | 16:45:36 |
| 16 | launched in -- on April 30, 2014, and the previous  | 16:45:41 |
| 17 | versions of the API began to be deprecated -- began | 16:45:44 |
| 18 | to be deprecated in -- on April 30, 2015.           | 16:45:47 |
| 19 | Q. I'm confident that all these questions           | 16:46:02 |
| 20 | will make the more specific testimony a lot faster  | 16:46:05 |
| 21 | because we have a basic understanding now of these  | 16:46:08 |
| 22 | terms, so I appreciate your patience as we go       | 16:46:10 |
| 23 | through. I have a few more questions that are       | 16:46:13 |
| 24 | general in nature like this before we get           | 16:46:15 |
| 25 | specifically into the topics and subtopics of the   | 16:46:19 |

1 notice. 16:46:21

2 You testified that Facebook provided 16:46:22

3 access to Facebook user information to what we've 16:46:23

4 called "third parties" through APIs. Right? 16:46:26

5 A. The Facebook Developer Platform allowed 16:46:30

6 third parties to build applications that accessed 16:46:33

7 data on Facebook users via the Graph API or via a 16:46:38

8 set of APIs. 16:46:44

9 Q. And apps are one category of the third 16:46:47

10 parties that could access APIs on the Facebook 16:46:50

11 Platform? 16:46:54

12 A. Sorry. Can you -- this is one of the 16:47:00

13 things that -- to make sure we get right and 16:47:01

14 understand, can you specify -- just repeat the 16:47:04

15 question again? 16:47:06

16 And -- if you're referring to one of the 16:47:07

17 categories, could you help me understand what, in 16:47:10

18 your mind, is the other categories? 16:47:12

19 Q. Sure. I'm going to go through some 16:47:14

20 different categories. I'm trying to understand the 16:47:16

21 different entities that were allowed to use the -- 16:47:18

22 the -- use APIs to access information. 16:47:21

23 And one of those -- and I'm calling them 16:47:23

24 "categories." If you have different terminology, 16:47:25

25 please tell me what it is. 16:47:27

1 But one of the categories that could 16:47:29  
2 access APIs was -- are referred to as "apps." 16:47:30  
3 Right? 16:47:34  
4 A. So in the context of the Facebook 16:47:36  
5 Developer Platform, to access any information via 16:47:38  
6 the API had to be done through a Facebook app ID; 16:47:43  
7 through a Facebook application with a specific 16:47:47  
8 Facebook app ID. 16:47:50  
9 Q. Okay. So that brings me to my next 16:47:51  
10 question, which is partners. 16:47:54  
11 Facebook has what it refers to as 16:47:56  
12 "partners." Correct? 16:47:58  
13 A. I've heard -- I've seen the term "partner" 16:48:02  
14 used. It refers to a wide range of relationships 16:48:05  
15 between Facebook and its -- and various third 16:48:08  
16 parties. 16:48:13  
17 Q. Okay. And you were involved in the 16:48:14  
18 partnerships group for four years or so at 16:48:16  
19 Facebook? 16:48:19  
20 A. I was -- I was involved in the 16:48:21  
21 partnerships organization from September 2010 until 16:48:22  
22 around January 2014. 16:48:25  
23 Q. Okay. And what did the term 16:48:28  
24 "partnerships" mean in that context? 16:48:30  
25 A. In that context, "partnerships" refers to 16:48:33



1 a range of relationships between Facebook and -- 16:48:37

2 and third parties, ranging from informal to more 16:48:41

3 structured relationships governed by contracts. 16:48:48

4 Q. And with regard to those partnerships, was 16:48:51

5 Facebook providing access to user information 16:48:55

6 through APIs? 16:48:57

7 A. In the context of the Platform 16:49:00

8 Partnerships team, we typically -- the people on 16:49:02

9 the Platform Partnerships team would typically be 16:49:05

10 working with third parties that were using the 16:49:09

11 Facebook Platform in some way. 16:49:11

12 Q. Okay. And I think this is what I'm trying 16:49:13

13 to get at. 16:49:15

14 Are there entities that Facebook calls 16:49:16

15 "partners" that have access to Facebook user 16:49:17

16 information but do not have apps on the Platform? 16:49:21

17 A. In this specific -- in this context, I -- 16:49:27

18 I am not aware of -- of -- in this specific 16:49:34

19 context, when we're talking about platform 16:49:39

20 partnerships, it's typically referring to entities 16:49:41

21 that use the Facebook Developer Platform, which 16:49:44

22 would typically be done by -- through an app ID, 16:49:47

23 but there were other features of the Facebook 16:49:51

24 Developer Platform that did not require you to use 16:49:53

25 an app ID. 16:49:56

1 Q. And, generally speaking, what were those 16:49:57  
2 features? 16:49:59

3 A. One common set of examples was the social 16:50:02  
4 plug-ins, which a developer or an entity could 16:50:04  
5 embed on their own website, that didn't access the 16:50:09  
6 Facebook API -- sorry -- didn't access the 16:50:13  
7 Graph API. 16:50:19

8 Q. And how did those features provide access 16:50:20  
9 to Facebook user information? 16:50:24

10 [REDACTED] [REDACTED] [REDACTED]  
11 [REDACTED] [REDACTED]  
12 [REDACTED] [REDACTED]  
13 [REDACTED] [REDACTED]  
14 [REDACTED] [REDACTED]  
15 [REDACTED] [REDACTED]  
16 [REDACTED] [REDACTED]

17 Q. And would Facebook obtain that 16:50:53  
18 information? 16:50:54

19 A. To render a social plug-in, it would be 16:50:57  
20 rendered by Facebook servers. 16:50:59

21 Q. Okay. So that was a mechanism by which 16:51:02  
22 Facebook obtained information about Facebook users 16:51:04  
23 while they were off-platform? 16:51:07

24 A. The way the "Like" button worked was to 16:51:12  
25 render -- if you visited a website that had the 16:51:15

1 "Like" button embedded on it, then the Like button 16:51:17  
2 would render. And in order to render it, Facebook 16:51:21  
3 would receive a request from the user's web 16:51:24  
4 browser. 16:51:29

5 Q. Okay. And that was not through an API; 16:51:29  
6 that was through this other product. 16:51:31

7 A. The social plug-ins are a different way of 16:51:36  
8 Facebook integrating information into third-party 16:51:40  
9 contexts that users could access. 16:51:45

10 Q. And what is the time period that social 16:51:49  
11 plug-ins have existed? 16:51:52

12 A. My understanding is that social plug-ins 16:51:55  
13 were launched alongside the Graph API in 16:51:58  
14 April 2010. 16:52:00

15 Q. And are they still active today? 16:52:03

16 A. I think there are some social plug-ins 16:52:06  
17 still active today, although I'm not certain, and 16:52:09  
18 that's something we can follow up on. 16:52:12

19 Q. And is there a tool that allows Facebook 16:52:15  
20 to identify what social plug-ins exist and the time 16:52:17  
21 period in which they've been active? 16:52:21

22 A. The Facebook code base, similar to my 16:52:25  
23 previous answer, would allow you to -- would allow 16:52:29  
24 someone to understand which social plug-ins have 16:52:31  
25 existed over what period of time. 16:52:34

1 Q. Are you familiar with the term 16:52:39  
2 "integration partners"? 16:52:40  
3 A. I've heard the phrase "integration 16:52:43  
4 partners," yes. 16:52:46  
5 Q. And what is an "integration partner"? 16:52:49  
6 A. Again, can you help me understand in the 16:52:52  
7 context in which you're asking the question? 16:52:54  
8 Q. Sure. All of my questions are around 16:52:57  
9 trying to understand how Facebook shares 16:52:59  
10 information with what I'm calling "third parties," 16:53:00  
11 and my understanding is that integration partners 16:53:02  
12 are an entity with which Facebook shares user 16:53:06  
13 information. 16:53:08  
14 So in that context. 16:53:08  
15 A. My understanding of the term -- of 16:53:12  
16 integration partners in that context is a set of 16:53:14  
17 entities, third parties, that Facebook had a 16:53:19  
18 relationship with to enable them to build 16:53:24  
19 Facebook-like or -- Facebook-branded or 16:53:28  
20 Facebook-like or feedback-branded experiences on 16:53:33  
21 the third party's platforms and services. 16:53:37  
22 Q. And so Facebook user information was 16:53:42  
23 provided to integration partners. Right? 16:53:46  
24 A. Typically, the way that an integration 16:53:52  
25 partner application works is that the application 16:53:54

|    |   |          |
|----|---|----------|
| 1  | was offered to users on that platform.              | 16:53:59 |
| 2  | Users would choose to use that application          | 16:54:02 |
| 3  | and, as a result of the user choosing to use the    | 16:54:05 |
| 4  | application, information about -- information would | 16:54:12 |
| 5  | be shared -- that the user had granted access to    | 16:54:17 |
| 6  | would be shared with the third party in order for   | 16:54:22 |
| 7  | them to provide the experience for a user.          | 16:54:24 |
| 8  | Q. And do integration partners have apps on         | 16:54:28 |
| 9  | the Facebook Platform?                              | 16:54:31 |
| 10 | A. The way that you would -- a developer            | 16:54:34 |
| 11 | would interact with the Facebook APIs would be      | 16:54:38 |
| 12 | through an app ID, which is what I'm referring to   | 16:54:42 |
| 13 | as an "application" in this specific context.       | 16:54:47 |
| 14 | Q. Okay. And, again, I'm just -- I want to          | 16:54:50 |
| 15 | make sure I understand.                             | 16:54:53 |
| 16 | So in order to create that Facebook                 | 16:54:54 |
| 17 | experience on a phone, would the information        | 16:54:56 |
| 18 | necessary to create that experience be communicated | 16:55:03 |
| 19 | to that phone company via the Graph API or through  | 16:55:06 |
| 20 | some other mechanism?                               | 16:55:12 |
| 21 | A. To build one of these integration partner        | 16:55:16 |
| 22 | experiences, the information would be made          | 16:55:19 |
| 23 | available through the Graph API; but, typically,    | 16:55:22 |
| 24 | the information would be accessed from the device   | 16:55:27 |
| 25 | itself that the user was using.                     | 16:55:32 |

|    |   |          |
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| 1  | Q. Okay. So not through an app on the               | 16:55:36 |
| 2  | Facebook Platform.                                  | 16:55:38 |
| 3  | A. This is where we need to make sure we're         | 16:55:42 |
| 4  | using the specific terms.                           | 16:55:44 |
| 5  | The way you access the Facebook set of              | 16:55:47 |
| 6  | APIs, the Facebook Platform, is through an entity   | 16:55:49 |
| 7  | called a "Facebook app ID" or a "Facebook app,"     | 16:55:52 |
| 8  | which has an app ID. That identifies -- that        | 16:55:55 |
| 9  | allows the owner of the app to make calls against   | 16:56:00 |
| 10 | the Facebook APIs.                                  | 16:56:03 |
| 11 | So, in that context, that's very                    | 16:56:06 |
| 12 | specifically what I'm referring to as a "Facebook   | 16:56:09 |
| 13 | app."   | 16:56:10 |
| 14 | Q. Okay. And is there anything -- And,              | 16:56:13 |
| 15 | again, this clarification is really helpful.        | 16:56:16 |
| 16 | In thinking about how integration partners          | 16:56:21 |
| 17 | get information about Facebook users, is there      | 16:56:23 |
| 18 | anything different about that system than the way a | 16:56:26 |
| 19 | normal app developer gets information about users?  | 16:56:28 |
| 20 | A. On a technical level, the way that the           | 16:56:34 |
| 21 | information is exchanged would have been done       | 16:56:37 |
| 22 | through the Graph API, which is the standard way to | 16:56:39 |
| 23 | access -- that users would give their information   | 16:56:44 |
| 24 | to apps and third parties.                          | 16:56:50 |
| 25 | So, at a technical level, the mechanism of          | 16:56:55 |

1 information interchange is the same, but an 16:56:59  
2 integration partner would be -- would be billing, 16:57:03  
3 typically, a different kind of experience than a 16:57:06  
4 regular Facebook Platform developer. 16:57:09

5 Q. And that experience was different because 16:57:14  
6 one is on the Platform, the Facebook Platform, and 16:57:17  
7 the other is on the integration partner's device? 16:57:20

8 A. So this -- again, this is for me to get 16:57:27  
9 very specific about. 16:57:31

10 In the context of the Facebook Platform, 16:57:32  
11 there is a concept of a feedback app, which is the 16:57:34  
12 entity that determines the -- how the information 16:57:38  
13 is accessed, what permissions have been granted by 16:57:42  
14 users, and so on. 16:57:45

15 What developers build are often also 16:57:47  
16 called "apps," and, like, that's a -- that's a 16:57:50  
17 different concept. 16:57:56

18 The application that a third-party 16:57:58  
19 developer would build might run on their web 16:58:01  
20 server. It might run on their hardware. It might 16:58:05  
21 run on a user's physical device. 16:58:08

22 And so these are distinct concepts which 16:58:12  
23 are important to -- to separate. 16:58:15

24 Q. Does Facebook have a term for -- for users 16:58:19  
25 that interact with integration partners, or are 16:58:23





1 Q. Okay. And in that example, the user 17:00:00  
2 authorizes access to the Facebook user's 17:00:03  
3 information. Correct? 17:00:06

4 A. When I -- if a user chooses to use the 17:00:09  
5 Facebook-branded application on a BlackBerry 17:00:14  
6 device, they are logging in on -- to that 17:00:17  
7 application; and, as a result, the application has 17:00:22  
8 access to some of the information that that user 17:00:24  
9 would be able to see on Facebook. 17:00:26

10 Q. And that information that that company 17:00:29  
11 would have access to would include information 17:00:33  
12 about the user's friends. Right? 17:00:36

13 A. In the specific example I was just talking 17:00:40  
14 about here, this would be a Facebook-branded 17:00:42  
15 application; a Facebook-branded product running on 17:00:46

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

22 Q. And that would -- among other types of 17:01:08  
23 information that would be made available in that 17:01:12  
24 example, friends information would be made 17:01:14  
25 available. Right? 17:01:17

1           A. Typically, a user would expect when           17:01:18  
2           they're using a Facebook-branded experience to see           17:01:20  
3           information about their friends and what their           17:01:26  
4           friends had been doing.           17:01:28

5           Q. And so the answer is yes?           17:01:30

6           A. If I'm using a Facebook-branded           17:01:34  
7           application on a BlackBerry device, I would expect           17:01:37  
8           to see information about my friend, yes.           17:01:40

9           Q. And in that example, the friends are not           17:01:42  
10          the ones who authorized BlackBerry to obtain that           17:01:45  
11          information. Right?           17:01:50

12          A. The user is using a BlackBerry application           17:01:51  
13          on the BlackBerry device, and the user has           17:01:54  
14          authorized that application to access Facebook's           17:01:57  
15          APIs in order to render a Facebook experience on           17:02:01  
16          that device.           17:02:05

17          Q. So the answer to my question is, correct,           17:02:06  
18          the friends did not authorize BlackBerry's access           17:02:11  
19          to their information?           17:02:14

20          A. One of my friends may have also had a           17:02:16  
21          BlackBerry device and may have logged in to the           17:02:19  
22          Facebook-branded experience on that device.           17:02:22

23                 Where I have -- I'm using Facebook -- the           17:02:27  
24          Facebook-branded experience on my BlackBerry           17:02:31  
25          device, then I am receiving -- I would be seeing           17:02:34

1 data on my phone that was from my friends that may 17:02:37  
2 not have been using BlackBerry. 17:02:43

3 Q. So, again, to answer the question, when 17:02:50  
4 BlackBerry obtained friend information, that friend 17:02:52  
5 information would include the information of people 17:02:56  
6 who did not themselves use the BlackBerry device. 17:02:59

7 A. I'm trying to -- I'm trying to 17:03:04  
8 understand -- 17:03:05

9 Q. I -- like -- 17:03:06

10 A. Sorry. 17:03:08

11 Q. Sorry. Go ahead. I apologize for 17:03:09  
12 interrupting. 17:03:10

13 A. I -- I'm trying to work through the 17:03:12  
14 specific example and explain the -- you know, how 17:03:16  
15 these things, you know, worked from a user level 17:03:18  
16 and a technical level. 17:03:22

17 In this case, you know, it's a -- it's a 17:03:24  
18 set of code that happened to be written by 17:03:27  
19 engineers at BlackBerry that ran on a user's 17:03:31  
20 device, and it was that code that would have been 17:03:36  
21 accessing -- typically, in that case -- accessing 17:03:38  
22 the Facebook API. 17:03:41

23 Q. Right. As you said, as you explained in 17:03:44  
24 more detail, when a user authorizes BlackBerry to 17:03:46  
25 obtain the information, some of those user's 17:03:49

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|----|---|------------|
| 1  | friends may also have authorized BlackBerry.        | 17:03:53   |
| 2  | And in that situation, both of those                | 17:03:56   |
| 3  | people had authorized BlackBerry to obtain their    | 17:03:58   |
| 4  | information. Right?                                 | 17:04:01   |
| 5  | A. It's possible that -- yes, I would have          | 17:04:03   |
| 6  | had -- I might have used -- I never actually had a  | 17:04:07   |
| 7  | [REDACTED]  | [REDACTED] |
| 8  | [REDACTED]  | [REDACTED] |
| 9  | [REDACTED]  | [REDACTED] |
| 10 | [REDACTED]  | [REDACTED] |
| 11 | [REDACTED]  | [REDACTED] |
| 12 | [REDACTED]  | [REDACTED] |
| 13 | [REDACTED]  | [REDACTED] |
| 14 | [REDACTED]  | [REDACTED] |
| 15 | [REDACTED]  | [REDACTED] |
| 16 | [REDACTED]  | [REDACTED] |
| 17 | application on their BlackBerry device.             | 17:04:39   |
| 18 | MR. LOESER: Okay. Thank you.                        | 17:04:41   |
| 19 | Mr. Blume, we have been going for a bit,            | 17:04:43   |
| 20 | and we're about to transition into another area.    | 17:04:46   |
| 21 | If now would be a time you would want to            | 17:04:49   |
| 22 | take a break, that would be fine with me, or we can | 17:04:51   |
| 23 | keep rolling.                                       | 17:04:54   |
| 24 | MR. BLUME: Now would be great. Thank you            | 17:04:55   |
| 25 | very much.  | 17:04:57   |

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|----|---|----------|
| 1  | THE VIDEO OPERATOR: Okay. And we're off             | 17:04:58 |
| 2  | the record. It's 5:04 P.M.                          | 17:04:59 |
| 3  | (Recess from 5:04 P.M. to 5:22 P.M.)                | 17:21:36 |
| 4  | (Mr. Melamed joined the deposition.)                | 17:22:59 |
| 5  | THE VIDEO OPERATOR: We're back on the               | 17:23:01 |
| 6  | record. It's 5:22 P.M.                              | 17:23:01 |
| 7  | BY MR. LOESER:                                      | 17:23:03 |
| 8  | Q. I'm not sure whether to say good morning         | 17:23:05 |
| 9  | or good afternoon, but still morning here and late  | 17:23:07 |
| 10 | afternoon for you, so whichever.                    | 17:23:10 |
| 11 | Welcome back.                                       | 17:23:12 |
| 12 | And a few other questions I realized                | 17:23:15 |
| 13 | before we get into the notice itself, and I'm going | 17:23:17 |
| 14 | to ask you about a term I've seen in some Facebook  | 17:23:21 |
| 15 | documents called "nonapp user-sharing."             | 17:23:24 |
| 16 | Is that a term that you're familiar with?           | 17:23:28 |
| 17 | A. I'm not familiar with the term "nonapp           | 17:23:33 |
| 18 | user-sharing" specifically, no.                     | 17:23:36 |
| 19 | Q. Okay. Let me try and dig in a bit and see        | 17:23:39 |
| 20 | if we can figure it out.                            | 17:23:42 |
| 21 | In addition to user information and users'          | 17:23:44 |
| 22 | friends' information, Facebook at times provided    | 17:23:50 |
| 23 | third parties access to information from people who | 17:23:53 |
| 24 | are not friends with the user. Is that correct?     | 17:23:55 |
| 25 | A. I think my -- sorry.                             | 17:24:03 |

|    |  |          |
|----|--|----------|
| 1  | Repeat that again. The specifics matter,           | 17:24:05 |
| 2  | yeah.  | 17:24:07 |
| 3  | Q. Yeah. So let me give you an example, and        | 17:24:09 |
| 4  | you can -- and maybe what I said makes more sense. | 17:24:12 |
| 5  | Are you familiar with the Events API?              | 17:24:16 |
| 6  | A. I am familiar with the Events API.              | 17:24:21 |
| 7  | Q. And what is the "Events API"?                   | 17:24:23 |
| 8  | A. The Events API, as I understand it, refers      | 17:24:26 |
| 9  | to a set of APIs that would be used by a Facebook  | 17:24:29 |
| 10 | Platform application to access the events that a   | 17:24:35 |
| 11 | user of the application was attending or had been  | 17:24:40 |
| 12 | invited to attend, for example, or had attended in | 17:24:47 |
| 13 | the past, and -- yeah. I think that's -- that's a  | 17:24:52 |
| 14 | high-level explanation.                            | 17:25:00 |

|   |              |   |
|---|--------------|---|
| █ | █ [REDACTED] | █ |
| █ | [REDACTED]   | █ |
| █ | [REDACTED] █ | █ |
| █ | █ [REDACTED] | █ |
| █ | [REDACTED]   | █ |
| █ | [REDACTED]   | █ |
| █ | █ [REDACTED] | █ |
| █ | [REDACTED]   | █ |
| █ | [REDACTED]   | █ |
| █ | █ [REDACTED] | █ |
| █ | [REDACTED]   | █ |

█ [REDACTED] █

█ [REDACTED] █

█ [REDACTED] █

4 that described as "providing access to nonapp-user 17:25:41

5 information"? 17:25:46

6 A. I don't recall seeing it described as 17:25:53

7 that, but that -- that term seems like a reasonable 17:25:55

8 one to use in that context. 17:26:02

9 Q. Let's go back to Exhibit 330 and to 17:26:09

10 page 13, which was the -- and we're going to post 17:26:15

11 all the exhibits on the screen so if it's easier 17:26:21

12 for you to look that way, you can do that. 17:26:23

13 And while we're getting there, I am going 17:26:38

14 to read Topic 6, which is one of the topics for 17:26:40

15 which you have been designated to testify. 17:26:43

16 It is: 17:26:46

17 "The development of friend-sharing, 17:26:46

18 including but not limited to: its purpose 17:26:48

19 and identification of those involved in its 17:26:50

20 development; how the technology functioned; 17:26:52

21 the APIs and permissions associated with 17:26:55

22 friend-sharing; the communication of this 17:26:59

23 technology to users, including the drafting 17:27:01

24 of Facebook's Terms of Service, SRR, and Data 17:27:04

25 and Privacy Policies relating to 17:27:09

|    |   |          |
|----|---|----------|
| 1  | friend-sharing; and the revenue impact and          | 17:27:11 |
| 2  | net profits for Facebook relating to                | 17:27:15 |
| 3  | friend-sharing throughout the Class Period."        | 17:27:16 |
| 4  | Did I read that correctly?                          | 17:27:19 |
| 5  | A. You read that correctly.                         | 17:27:21 |
| 6  | Q. And my understanding from communications         | 17:27:23 |
| 7  | from your counsel is that you have not prepared or  | 17:27:26 |
| 8  | been prepared to testify about the following        | 17:27:30 |
| 9  | clause:   | 17:27:34 |
| 10 | "...the communication of this technology            | 17:27:35 |
| 11 | to users, including the drafting of                 | 17:27:36 |
| 12 | Facebook's Terms of Service, SRR, and Data          | 17:27:39 |
| 13 | and Privacy Policies relating to                    | 17:27:43 |
| 14 | friend-sharing."                                    | 17:27:44 |
| 15 | Is that correct?                                    | 17:27:46 |
| 16 | A. That's correct with my understanding, yes.       | 17:27:47 |
| 17 | Q. And, sir, over the course of your                | 17:27:50 |
| 18 | employment at Facebook, have you developed personal | 17:27:51 |
| 19 | knowledge of the topic I just read?                 | 17:27:54 |
| 20 | A. My personal knowledge would cover that to        | 17:28:03 |
| 21 | some degree, yes.                                   | 17:28:05 |
| 22 | Q. Mr. Cross, tell me what you did to prepare       | 17:28:07 |
| 23 | to testify regarding Topic 6.                       | 17:28:11 |
| 24 | A. I spoke to a number of people inside the         | 17:28:16 |
| 25 | company. I reviewed the documents that have been    | 17:28:18 |



1 produced in this case, both some documents that my 17:28:25  
 2 legal team shared with me and the documents that 17:28:30  
 3 you have shared with me. 17:28:34

4 I also spent some time looking at the 17:28:36  
 5 Facebook developer website as it was in the past to 17:28:39  
 6 understand how -- how the platform originally 17:28:45  
 7 worked would refresh my memory. 17:28:50

8 Q. And as to the statement you just made, 17:28:54  
 9 where did you go to find how the Developer Platform 17:28:57  
 10 existed in the past? 17:29:02

11 A. I used the Wayback Machine, otherwise 17:29:05  
 12 known as archive.org, I think, is its address. 17:29:12

13 Q. Okay. So you didn't use any system or 17:29:17  
 14 tool within the Facebook structure. 17:29:20

15 A. Not to access the previous versions of the 17:29:24  
 16 Facebook developer website, no. 17:29:26

17 Q. And I asked you about whether you had 17:29:30  
 18 personal knowledge of the communication subtopic. 17:29:32

19 With regard to the remainder of the topics 17:29:36  
 20 covered by Topic 6, over the course of your 17:29:38  
 21 employment, did you develop personal knowledge of 17:29:41  
 22 those topics as well? 17:29:43

23 A. Given my involvement in this product area, 17:29:47  
 24 I did develop personal knowledge of how these 17:29:50  
 25 things worked. 17:29:54

|    |  |          |
|----|--|----------|
| 1  | Q. And is there any component of this notice       | 17:29:56 |
| 2  | that is a topic that the sole source of your       | 17:29:58 |
| 3  | knowledge is the preparation you did for this      | 17:30:03 |
| 4  | deposition?  | 17:30:06 |
| 5  | A. Give me a second just to read the terms         | 17:30:10 |
| 6  | again.   | 17:30:15 |
| 7  | (Reviewing document.)                              | 17:30:19 |
| 8  | THE WITNESS: And your question was the --          | 17:30:26 |
| 9  | the -- in preparing -- sorry.                      | 17:30:29 |
| 10 | Just repeat your question again.                   | 17:30:31 |
| 11 | Is it the sole thing is my personal                | 17:30:33 |
| 12 | experience, or the sole thing is not my personal   | 17:30:36 |
| 13 | experience?  | 17:30:38 |
| 14 | BY MR. LOESER:                                     | 17:30:39 |
| 15 | Q. Not your personal experience.                   | 17:30:39 |
| 16 | I'm trying to find out if there's any              | 17:30:40 |
| 17 | aspect of this that you only know about because of | 17:30:43 |
| 18 | the preparations that you did for this deposition  | 17:30:45 |
| 19 | today.   | 17:30:47 |
| 20 | A. Of those, the -- the revenue impact and         | 17:30:49 |
| 21 | net profits is an area that I was not closely      | 17:30:51 |
| 22 | involved in at the time. And so in trying to       | 17:30:54 |
| 23 | answer your forthcoming questions on that topic,   | 17:30:59 |
| 24 | I'll be primarily, if not exclusively, relying on  | 17:31:04 |
| 25 | the preparation I've done and the documents I've   | 17:31:07 |

|    |  |          |
|----|--|----------|
| 1  | read.  | 17:31:09 |
| 2  | Q. And for that particular issue, what             | 17:31:11 |
| 3  | preparation did you do?                            | 17:31:15 |
| 4  | A. I reviewed a set of documents that had          | 17:31:18 |
| 5  | been produced in this -- in this case, and I asked | 17:31:21 |
| 6  | some of the people that I spoke to in preparation  | 17:31:25 |
| 7  | what their recollection was around assessments of  | 17:31:30 |
| 8  | revenue impact and net profits.                    | 17:31:34 |
| 9  | Q. And who were the people that you spoke to       | 17:31:38 |
| 10 | on that topic?                                     | 17:31:41 |
| 11 | A. I would have spoken to Eddie O'Neil,            | 17:31:45 |
| 12 | Ime Archibong, and -- I'm trying to remember who I | 17:31:52 |
| 13 | spoke to about what -- and I think Francisco       | 17:32:01 |
| 14 | Varela.  | 17:32:14 |
| 15 | Q. Mr. Cross, based on your preparation with       | 17:32:21 |
| 16 | regard to Topic 6, do you believe you are          | 17:32:25 |
| 17 | reasonably educated to testify on these matters,   | 17:32:28 |
| 18 | with the one caveat of the communication piece?    | 17:32:31 |
| 19 | A. I've done my best to be prepared to             | 17:32:34 |
| 20 | testify on these matters, yes.                     | 17:32:36 |
| 21 | Q. Okay. So do you believe you are                 | 17:32:37 |
| 22 | reasonably educated to testify on these matters?   | 17:32:39 |
| 23 | A. I believe I'm reasonably educated to            | 17:32:43 |
| 24 | testify on these matters.                          | 17:32:46 |
| 25 | Q. And do you agree that the notice concerns       | 17:32:47 |

|    |   |          |
|----|---|----------|
| 1  | information that is known or reasonably available   | 17:32:50 |
| 2  | to Facebook?  | 17:32:53 |
| 3  | A. That matches my understanding; yes, known        | 17:32:56 |
| 4  | or reasonably available to Facebook.                | 17:33:02 |
| 5  | Q. So let's look more at Topic 6.                   | 17:33:05 |
| 6  | And this topic, obviously, concerns                 | 17:33:08 |
| 7  | friend-sharing. Right?                              | 17:33:16 |
| 8  | A. The topic concerns the development of            | 17:33:19 |
| 9  | friend-sharing, as I understand it, yes.            | 17:33:22 |
| 10 | Q. And tell me: What was the purpose of             | 17:33:24 |
| 11 | friend-sharing for Facebook?                        | 17:33:26 |
| 12 | A. To help me answer that, can you define for       | 17:33:30 |
| 13 | me what you think you mean by the phrase            | 17:33:32 |
| 14 | "friend-sharing"?                                   | 17:33:34 |
| 15 | Q. That is an excellent question, and so let        | 17:33:35 |
| 16 | me ask you:   | 17:33:38 |
| 17 | How does Facebook -- what does Facebook             | 17:33:40 |
| 18 | mean by the term "friend-sharing"?                  | 17:33:42 |
| 19 | A. In this context, my understanding of the         | 17:33:47 |
| 20 | phrase "friend-sharing" is where a Facebook         | 17:33:51 |
| 21 | application would be able to access some            | 17:33:54 |
| 22 | information about an app user's friends that hadn't | 17:33:58 |
| 23 | necessarily explicitly used that application.       | 17:34:04 |
| 24 | Q. And can we expand the definition to also         | 17:34:11 |
| 25 | cover the context in which private APIs are used to | 17:34:14 |

1 give access to friend information, or would that be 17:34:19  
2 covered by what you said? 17:34:24

3 A. It's hard to answer that question given 17:34:30  
4 the -- the definition of "private API" being a wide 17:34:31  
5 range of things would be classified or classifiable 17:34:37  
6 as private APIs; many not limited -- or not 17:34:40  
7 involving friend-sharing in any way. 17:34:46

8 Q. And I appreciate that, and so I'm asking 17:34:48  
9 specifically about private APIs that provided 17:34:51  
10 access to friend-sharing information. 17:34:54

11 I mean, I guess I should ask: Private 17:35:01  
12 APIs did, in fact, for some partners provide access 17:35:03  
13 to friend information. Right? 17:35:06

14 A. There were some partners who had access to 17:35:12  
15 information that users had authorized the 17:35:18  
16 application to access that included friend 17:35:23  
17 information. 17:35:29

18 Q. Okay. And so when I use the phrase 17:35:30  
19 "friend-sharing" for purposes of this deposition, I 17:35:33  
20 intend to mean any friend-sharing, when it was via 17:35:35  
21 private APIs or otherwise via APIs on the Platform. 17:35:40

22 Is that fair? 17:35:46

23 A. I think we should -- I'll try and call out 17:35:49  
24 where that distinction is important because there's 17:35:52  
25 a number of different ways in this -- that these 17:35:56

|    |   |          |
|----|---|----------|
| 1  | things worked.                                      | 17:36:00 |
| 2  | I understand your -- your initial                   | 17:36:01 |
| 3  | understanding of -- I refer back to my definition   | 17:36:04 |
| 4  | of "friend-sharing," and I will try and -- I will   | 17:36:08 |
| 5  | try and call out where I see a distinction between  | 17:36:12 |
| 6  | friend-sharing as it was available to regular,      | 17:36:16 |
| 7  | nonwhitelisted developers and via private APIs.     | 17:36:21 |
| 8  | Q. I appreciate that. And I have some               | 17:36:28 |
| 9  | questions, too, that separate along those lines, so | 17:36:29 |
| 10 | I think that will work quite well.                  | 17:36:32 |
| 11 | And I asked you what the purpose of                 | 17:36:34 |
| 12 | "friend-sharing" was.                               | 17:36:35 |
| 13 | So with that definition of                          | 17:36:37 |
| 14 | "friend-sharing," can you describe what the purpose | 17:36:37 |
| 15 | was?  | 17:36:39 |
| 16 | A. Friend-sharing was an inherent part of the       | 17:36:42 |
| 17 | Facebook Platform as it was built, starting in      | 17:36:47 |
| 18 | 2007, to allow app developers to build engaging     | 17:36:50 |
| 19 | social experiences.                                 | 17:36:55 |
| 20 | In many cases, a user would be the first            | 17:37:02 |
| 21 | person to -- they know to authorize an application, | 17:37:05 |
| 22 | and in order for that application to build an       | 17:37:12 |
| 23 | engaging social experience, the application would   | 17:37:14 |
| 24 | have access to a subset of the information that     | 17:37:18 |
| 25 | that user could see on Facebook.                    | 17:37:23 |

1           The original premise of the Facebook           17:37:26  
2           Platform is the -- the app that a user was           17:37:28  
3           authorizing would be able to see things that they           17:37:34  
4           could also see on Facebook.           17:37:39

5           Q.   And who came up with the idea of           17:37:43  
6           friend-sharing?           17:37:45

7           Is there a particular person?           17:37:46

8           A.   I don't know.  We -- I don't know the           17:37:49  
9           specific name of the person who came up with           17:37:54  
10          friend-sharing.           17:37:56

11          The ability to access information about           17:37:57  
12          the friends of a person using an application was,           17:38:04  
13          as I understand it, part of the Facebook Developer           17:38:10  
14          Platform from its inception; and so the people           17:38:12  
15          involved in developing the Facebook Platform would           17:38:15  
16          have been the people determining how it operated.           17:38:17

17          Q.   And was Mark Zuckerberg involved in the           17:38:23  
18          development of the platform?           17:38:27

19          A.   There were a number of people involved in           17:38:31  
20          the development of the platform circa 2007, when it           17:38:33  
21          was launched.  I imagine Mark was aware that this           17:38:36  
22          platform was launching.  I don't know how much he           17:38:41  
23          was involved in the development of the platform.           17:38:45

24          Q.   And do you know if Mark Zuckerberg had           17:38:49  
25          anything to say one way or the other about whether           17:38:55

1 friend-sharing should be part of the platform at 17:38:57  
2 its outset? 17:38:59

3 A. I have not seen any documents or 17:39:01  
4 communication that would indicate how the decisions 17:39:04  
5 as to how the platform was designed were -- were 17:39:11  
6 come to. 17:39:14

7 Q. And would you agree that the 17:39:17  
8 friend-sharing APIs provided a significant amount 17:39:21  
9 of information about users to app developers? 17:39:27

10 A. Can you help me understand what you mean 17:39:33  
11 by the "friend-sharing APIs"? 17:39:34

12 That's not a term I'm familiar with. 17:39:36

13 Q. Well, what is the term you use to describe 17:39:38  
14 the different APIs that provided for access to 17:39:40  
15 friend information? 17:39:44

16 A. They would just be called the "APIs." The 17:39:48  
17 Likes API, for example, would be one. And then 17:39:52  
18 that API could be called in a number of different 17:39:57  
19 contexts. 17:40:00

20 Q. And weren't there a number of APIs that 17:40:01  
21 had the word "friends" in them? 17:40:04

22 A. There were a number of permissions that 17:40:08  
23 had the words "friends" in them. There may have 17:40:10  
24 been some APIs with the word "friends" in, but I -- 17:40:14  
25 again, the difference between APIs and permissions 17:40:18



1 is an important concept to draw. 17:40:21

2 Q. Okay. Well, let's talk about permissions, 17:40:24

3 then. 17:40:26

4 So when I've seen lists of what I've been 17:40:27

5 referring to as "APIs" that say "friends video 17:40:30

6 watch" or "friends posts" or "friends whatever," 17:40:33

7 I've been -- I think of those as APIs. 17:40:36

8 But you're telling me I should think of 17:40:39

9 those as permissions. 17:40:42

10 A. There's a -- in Graph API Version 1, there 17:40:44

11 was a specific set of permissions that were 17:40:47

12 referred to as the "friends permissions." 17:40:50

13 And I think that's the most proper way to 17:40:53

14 refer to them. 17:40:57

15 Q. And were friends permissions widely used 17:40:59

16 permissions prior to the implementation of 17:41:03

17 Graph API Version 2? 17:41:06

18 A. Can you help me understand what you mean 17:41:09

19 by "widely used"? 17:41:10

20 Q. Well, what does that term just naturally 17:41:13

21 mean to you? 17:41:17

22 A. It could mean a number of different 17:41:18

23 things. It could mean whether or not they were 17:41:20

24 frequently asked by applications; regularly granted 17:41:23

25 by users. 17:41:31

|    |   |          |
|----|---|----------|
| 1  | Hard to answer without the specifics.             | 17:41:32 |
| 2  | Q. Well, let's start with frequently called       | 17:41:34 |
| 3  | by applications.                                  | 17:41:36 |
| 4  | Were friends permissions frequently called        | 17:41:40 |
| 5  | by applications?                                  | 17:41:42 |
| ■  | ■ [REDACTED]                                      | ■        |
| ■  | [REDACTED]  | ■        |
| ■  | [REDACTED]  | ■        |
| ■  | [REDACTED]  | ■        |
| ■  | [REDACTED]  | ■        |
| ■  | [REDACTED]  | ■        |
| 12 | Q. And -- but a tremendous volume of user         | 17:42:04 |
| 13 | data was made accessible through friends          | 17:42:08 |
| 14 | permissions, wouldn't you say?                    | 17:42:11 |
| 15 | A. I am not sure what you mean by                 | 17:42:14 |
| 16 | "tremendous."                                     | 17:42:15 |
| 17 | The friend permissions allowed                    | 17:42:17 |
| 18 | applications on the Facebook Platform to access   | 17:42:20 |
| 19 | information about an app user's friends.          | 17:42:22 |
| 20 | Q. And Facebook was concerned about the           | 17:42:25 |
| 21 | amount of information that was made available via | 17:42:27 |
| 22 | the friends permissions. Correct?                 | 17:42:30 |
| 23 | A. There were discussions internally about        | 17:42:34 |
| 24 | how the friend permissions were being used by     | 17:42:38 |
| 25 | applications.                                     | 17:42:42 |

|    |  |          |
|----|--|----------|
| 1  | MR. LOESER: Why don't we put up an                 | 17:42:53 |
| 2  | exhibit. And -- Tab 4, which would be 331 now?     | 17:42:54 |
| 3  | 332. All right. We're going to mark                | 17:43:03 |
| 4  | Exhibit 332.                                       | 17:43:06 |
| 5  | (Deposition Exhibit 332 was marked for             | 17:43:07 |
| 6  | identification.)                                   | 17:43:09 |
| 7  | BY MR. LOESER:                                     | 17:43:12 |
| 8  | Q. And over the course of the day, I'm going       | 17:43:12 |
| 9  | to be referring to "tabs." That's really just for  | 17:43:15 |
| 10 | our benefit over here. A document will magically   | 17:43:18 |
| 11 | appear on your screen that are tabs for me but are | 17:43:21 |
| 12 | Bates numbers for you. So -- and exhibit numbers.  | 17:43:25 |
| 13 | This is a slipcover sheet which is not the         | 17:43:34 |
| 14 | document itself that has the metadata for the      | 17:43:37 |
| 15 | document.  | 17:43:39 |
| 16 | So if we can go to the next page of the            | 17:43:40 |
| 17 | document, I'm showing you an email from the name   | 17:43:42 |
| 18 | that we can't say that we have agreed to call "KP" | 17:43:45 |
| 19 | to a number of people, including Allison Hendrix,  | 17:43:50 |
| 20 | dated September 27, 2013.                          | 17:43:54 |
| 21 | Is that the document that's in front of            | 17:43:57 |
| 22 | you?   | 17:44:00 |
| 23 | A. That's the document I see, yes.                 | 17:44:01 |
| 24 | Q. And can you look at the first paragraph,        | 17:44:09 |
| 25 | the first full paragraph of that document?         | 17:44:11 |

|    |   |            |
|----|---|------------|
| 1  | A. Yep.   | 17:44:16   |
| 2  | Q. And KP writes:                                   | 17:44:17   |
| 3  | [REDACTED]  | [REDACTED] |
| 4  | [REDACTED]  | [REDACTED] |
| 5  | [REDACTED]  | [REDACTED] |
| 6  | [REDACTED]  | [REDACTED] |
| 7  | [REDACTED]  | [REDACTED] |
| 8  | [REDACTED]  | [REDACTED] |
| 9  | [REDACTED]  | [REDACTED] |
| 10 | [REDACTED]  | [REDACTED] |
| 11 | [REDACTED]  | [REDACTED] |
| 12 | A. You missed the word "data" between               | 17:44:44   |
| 13 | "identity" and "required," I think, but other than  | 17:44:46   |
| 14 | that, you got --                                    | 17:44:48   |
| 15 | Q. Thank you.                                       | 17:44:49   |
| 16 | And do you understand what "identity data"          | 17:44:50   |
| 17 | is?   | 17:44:52   |
| 18 | A. It's hard for me here to be -- to know           | 17:44:56   |
| 19 | specifically what he's referring to, but -- yeah,   | 17:44:59   |
| 20 | so it's hard for me to know explicitly what he is   | 17:45:06   |
| 21 | referring to.                                       | 17:45:09   |
| 22 | In my personal capacity, I would                    | 17:45:09   |
| 23 | understand that to mean -- no, I'm not sure I could | 17:45:13   |
| 24 | conclusively say what he's referring to by          | 17:45:24   |
| 25 | "identity data."                                    | 17:45:26   |

|   |   |          |
|---|---|----------|
| 1 | Q. Could it be information about Facebook           | 17:45:28 |
| 2 | users?  | 17:45:30 |
| 3 | Does that seem like a reasonable                    | 17:45:31 |
| 4 | interpretation of that phrase?                      | 17:45:32 |
| 5 | A. Looking at the API call here, this               | 17:45:35 |
| 6 | would -- my understanding is this is referring to   | 17:45:40 |
| 7 | the number of requests to a user ID, like a user -- | 17:45:43 |
| 8 | the user -- what we would call the "user method" of | 17:45:49 |
| 9 | the Graph API.                                      | 17:45:52 |

[illegible]



■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

4 Is that what that says? 17:48:47

5 A. That's what I read from the document. 17:48:48

6 Q. So there were 138 times more requests than 17:48:51

7 there were users in the last 30 days. 17:48:55

8 A. I can't do the math in my head, but I 17:49:00

9 understand -- 17:49:03

10 Q. He has it -- yeah, sorry to interrupt, but 17:49:04

11 the math is there. It says "138X." Right? 17:49:07

12 A. I see "138S" on the page, yeah. 17:49:10

13 Q. You're saying that you're not sure his 17:49:13

14 math is right, but -- right? 17:49:14

15 A. Yeah, I'm not doing a -- I'm not doing the 17:49:17

16 math in my head. I'm just reading the numbers off 17:49:19

17 the page. 17:49:22

18 Q. And what does it suggest to Facebook if -- 17:49:22

19 if there are 138 times as many requests for 17:49:26

20 identity data than there are monthly active users? 17:49:31

21 A. It might suggest that the app was not very 17:49:37

22 efficiently developed. 17:49:40

23 Q. Might it also suggest that the app was 17:49:43

24 obtaining information in ways that weren't related 17:49:45

25 to the use case for the app? 17:49:51

|   |  |          |
|---|--|----------|
| 1 | A. It might mean that the app was making         | 17:49:56 |
| 2 | requests for user data. It doesn't necessarily   | 17:49:59 |
| 3 | indicate that that's inappropriate given the use | 17:50:02 |
| 4 | case of the app.                                 | 17:50:08 |

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[illegible][illegible][illegible][illegible][illegible]

\_\_\_\_\_

\_\_\_\_\_

[illegible][illegible]

**[REDACTED]**

\_\_\_\_\_

[illegible][illegible][illegible]

|  |  |            |  |
|--|--|------------|--|
|  |  | [REDACTED] |  |
|--|--|------------|--|

\_\_\_\_\_

**[REDACTED]**



■ [REDACTED] ■ 17:51:31

■ [REDACTED] ■ 17:51:33

■ [REDACTED] ■ 17:51:39

4 Q. And for Facebook, is that considered 17:51:41

5 somewhat of a red flag? 17:51:43

6 A. I think there's a number of reasons why 17:51:45

7 Facebook might be interested in how applications 17:51:50

8 are calling the API. 17:51:54

9 One example might be that if the app is 17:51:57

10 developed inefficiently, then there is an impact on 17:52:01

11 Facebook's ability to serve those requests 'cause 17:52:04

12 every time the API is called, a lot of code has to 17:52:08

13 be run. 17:52:13

14 Q. And do you think that's what KP was 17:52:15

15 sending this email about? 17:52:19

16 A. I'm not -- there's no reference here as to [REDACTED] ■

17 exactly what -- whether or not that was a reason [REDACTED] ■

18 that KP was sending this email. [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

■ [REDACTED] ■

2           A. From this email, it's hard to know 17:52:58  
3 specifically what the issue was. I -- I was not on 17:53:00  
4 this email thread in a personal capacity, and I was 17:53:05  
5 unable to talk to KP about what he meant because 17:53:11  
6 he's no longer at the company. 17:53:15

7           Q. And in stepping away from this email, was 17:53:19  
8 Facebook aware that friends permissions were often 17:53:23  
9 called by apps in ways that exceeded the use case 17:53:29  
10 for the app? 17:53:35

11          A. At the time there was a number of 17:53:40  
12 discussions about how apps were using the 17:53:41  
13 information they got via the API. One of those 17:53:46  
14 reasons would have been that there were some 17:53:53  
15 questions about how that information was being 17:53:58  
16 used. 17:54:00

17          Q. And what's the time frame you're referring 17:54:02  
18 to in your answer? 17:54:04

19          A. My answer here, I'm referring to around 17:54:08  
20 2013, the -- roughly when I have reviewed documents 17:54:12  
21 about this time, where there was a number of 17:54:15  
22 discussions taking place about how apps were using 17:54:18  
23 the Facebook Developer Platform and which 17:54:23  
24 particular APIs and permissions they were using. 17:54:27

25          Q. The way friend-sharing was set up, a 17:54:33

1 Facebook user decided whether an app or integration 17:54:35

2 partner got access to the user's friend data. 17:54:39

3 Right? 17:54:43

4 A. The way the Facebook Platform worked is 17:54:44

5 that users would authorize an application to access 17:54:46

6 their information. They could also, in API 17:54:49

7 Version 1 and before, grant the application access 17:54:56

8 to information about -- some information about that 17:54:58

9 user's friends who had not -- who were not 17:55:05

10 necessarily using the application. 17:55:07

11 Q. Okay. And on an app-by-app basis, the 17:55:09

12 friends themselves did not have a say in whether 17:55:16

13 their information was made available to the app 17:55:19

14 that their friend used. Right? 17:55:20

15 A. My understanding is that developers -- 17:55:24

16 users could opt out of the Facebook Developer 17:55:27

17 Platform, and that would prevent their information 17:55:29

18 being shared with most third parties. 17:55:33

19 Q. Okay. And that -- and let me make sure I 17:55:37

20 understand your testimony. 17:55:41

21 The only way to stop your friends from 17:55:43

22 sharing your information with an app was to turn 17:55:45

23 off apps altogether on the Platform. Is that 17:55:47

24 right? 17:55:49

25 A. The controls available to users changed 17:55:54

1 over time. For a period, there was a way for users 17:55:57  
 2 to access a setting -- an area of settings called 17:56:04  
 3 "Apps Others Use" -- I think I'm getting that 17:56:08  
 4 right -- which allowed them to control which 17:56:11  
 5 subsets of their information were available to 17:56:14  
 6 applications via the friend permissions. 17:56:19  
 7 Q. And what period was that choice available? 17:56:22  
 8 A. I don't know specifically when that -- 17:56:31  
 9 those settings were made available or were removed. 17:56:33  
 10 It was certainly available, as I understand it, in 17:56:37  
 11 around 2014. 17:56:40  
 12 Q. And why was that choice taken away from 17:56:48  
 13 users? 17:56:51  
 14 A. My understanding is that that area of 17:56:52  
 15 settings was removed when there were no or few 17:56:54  
 16 third-party applications that had access to that 17:57:04  
 17 information via the APIs. 17:57:08  
 18 Q. And do you have an understanding -- or 17:57:15  
 19 what is Facebook -- well, strike that. 17:57:16  
 20 What was the time period for which the 17:57:18  
 21 only way to stop your friends from sharing 17:57:20  
 22 information was to turn off apps altogether on the 17:57:23  
 23 Platform? 17:57:25  
 24 A. To answer that question, I'd need to know 17:57:29  
 25 exactly when the Apps Others Use setting was 17:57:31

1 introduced, which is a date I don't have, I'm 17:57:36  
2 afraid. 17:57:38

3 Q. Okay. And will you follow up and provide 17:57:39  
4 that information? 17:57:41

5 You would provide it to your counsel, who 17:57:46  
6 can provide it to us. 17:57:47

7 A. I'm sure we could try and attempt to 17:57:49  
8 follow up on determining when those settings 17:57:51  
9 were -- were introduced. 17:57:54

10 Q. And where would you go to search for the 17:57:57  
11 answer to that question? 17:57:59

12 A. My immediate step would be to ask the 17:58:08  
13 engineers who had worked on that feature or may 17:58:10  
14 have worked on that feature to try and identify 17:58:15  
15 when that feature was made available. 17:58:20

16 Q. Thank you. During the time that the only 17:58:27  
17 way to turn off -- or to block your friend from 17:58:29  
18 sharing your information was by turning off apps 17:58:33  
19 altogether, can you explain why friend-sharing was 17:58:37  
20 set up that way? 17:58:41

21 A. The original design of the Facebook 17:58:45  
22 Platform rested on a very simple premise, which is 17:58:47  
23 that the user has access to information by using 17:58:54  
24 Facebook, and the user could allow apps to access 17:58:58  
25 the information that they could see on Facebook, 17:59:04

|    |   |          |
|----|---|----------|
| 1  | and that would allow those applications to build    | 17:59:06 |
| 2  | rich, engaging social experiences.                  | 17:59:11 |
| 3  | That was the simple, clear, founding                | 17:59:14 |
| 4  | premise of the Facebook Developer Platform.         | 17:59:18 |
| 5  | Q. From your testimony, it sounds like, just        | 17:59:22 |
| 6  | from a technical standpoint, it is possible for     | 17:59:25 |
| 7  | Facebook to provide a setting through which, on an  | 17:59:27 |
| 8  | app-by-app basis, Facebook users can determine      | 17:59:32 |
| 9  | whether their friends share their information.      | 17:59:37 |
| 10 | Right?  | 17:59:44 |
| 11 | A. The testimony I think you're referring to        | 17:59:44 |
| 12 | from a few minutes ago refers to a set of settings  | 17:59:46 |
| 13 | called "Apps Others Use," which allowed users to    | 17:59:50 |
| 14 | opt out of certain types of their information being | 17:59:55 |
| 15 | shared with any apps their friend used.             | 17:59:59 |
| 16 | My understanding is that was not an                 | 18:00:03 |
| 17 | app-by-app setting.                                 | 18:00:05 |
| 18 | Q. Okay. I want to make sure I understand           | 18:00:10 |
| 19 | that.   | 18:00:13 |
| 20 | So was there any time when a Facebook user          | 18:00:13 |
| 21 | could block a particular app that one of their      | 18:00:18 |
| 22 | friends used?                                       | 18:00:23 |
| 23 | Let's call the app "friend's app." So was           | 18:00:25 |
| 24 | there at any time a setting where a user would have | 18:00:30 |
| 25 | the option of saying no to a friend's app getting   | 18:00:32 |

1       their information because their friend used that       18:00:37  
2       app?       18:00:40  
3           A.   The feature that enables -- there was a       18:00:42  
4       feature called "Blocks" which allows a user to       18:00:47  
5       block a specific application.       18:00:50  
6           My understanding is that that would mean       18:00:52  
7       the application would not have access to their       18:00:55  
8       information by the --       18:00:58  
9           Q.   So would the user get a notice, say, from       18:01:04  
10      friend's app that said, "Your friend wants to share       18:01:07  
11      your information. Do you -- are you providing --       18:01:11  
12      like, will you authorize that?"       18:01:13  
13           Is that how it functioned?       18:01:15  
14           A.   The way friend-sharing worked was that a       18:01:17  
15      user could authorize an application, grant       18:01:20  
16      permissions to that application to access -- well,       18:01:24  
17      actually, let me back up.       18:01:28  
18           The -- the permissions were introduced       18:01:30  
19      into the API sometime after the Facebook Developer       18:01:33  
20      Platform was first launched.       18:01:39  
21           When -- in the original version, when a       18:01:44  
22      friend -- when a user authorized an application,       18:01:46  
23      that application had access to information about       18:01:48  
24      that user and some information about that user's       18:01:52  
25      friends.       18:01:55

1                   There were -- the user -- the user's                   18:01:57

2                   friends would not get notified that their friend               18:02:00

3                   was using the application. There would be no               18:02:02

4                   placebo active notifications.                   18:02:05

5                   Q. And what was that time period?                   18:02:08

6                   A. The way the permissions -- the granular               18:02:11

7                   permissions were launched in April 2010, and so the           18:02:16

8                   specific feature I'm referring to there is prior to           18:02:21

9                   April 2010, apps would access a range of               18:02:27

10                  information without granular permissions needed to       18:02:35

11                  be granted.                   18:02:38

12                  Starting in April 2010, users granted               18:02:40

13                  specific permissions to an application determining       18:02:43

14                  which data that application had access to.           18:02:46

15                  Q. Right.                   18:02:52

16                  A. Through both of those periods, when a user           18:02:52

17                  installed an application, their friends would not       18:02:56

18                  be notified that they had done so.               18:02:59

19                  Q. Okay. And was there a point in time when,       18:03:03

20                  before a user could share the user's friends           18:03:04

21                  information, the users got notice that the app was       18:03:10

22                  seeking friends information?               18:03:13

23                  A. I'm not aware of any time where a               18:03:16

24                  nonapp-user would be notified that one of their       18:03:20

25                  friends was using an application.               18:03:23



1 Q. Okay. And why was Facebook set up that 18:03:26  
2 way so that friends didn't receive notification 18:03:29  
3 when their users -- when their friends were trying 18:03:33  
4 to provide access to their information? 18:03:36

5 A. The original premise of the Facebook 18:03:41  
6 Platform was that when a user was using an 18:03:42  
7 application, that application had access to, at the 18:03:48  
8 limit, potentially, anything that that user would 18:03:52  
9 be able to see on Facebook. 18:03:55

10 It was the user taking the information 18:03:57  
11 that had been shared with them and making that 18:03:59  
12 available to an application. 18:04:02

13 Q. And have you seen in documents that 18:04:07  
14 structure referred to as "authorization by proxy"? 18:04:10

15 A. I don't recall seeing that phrase in 18:04:16  
16 particular. 18:04:17

17 Q. So, now, could Facebook have set up the 18:04:24  
18 platform so that before an app could get access to 18:04:26  
19 a person's information, where that person was the 18:04:30  
20 friend of someone using the app, that they could 18:04:33  
21 have received notice that this app is attempting to 18:04:36  
22 gain the nonapp user's information? 18:04:40

23 A. It's technically possible that when a user 18:04:50  
24 authorized an application and granted friends 18:04:52  
25 permissions, that a notification could have been 18:04:58

1 sent. That's technically possible. 18:05:03

2 It would have introduced a number of 18:05:07

3 unusual experiences, however. 18:05:09

4 Q. And what do you mean by that? 18:05:15

5 A. So sometimes I'm logging into an 18:05:21

6 application or I'm using an application for the 18:05:24

7 very first time. I'm not necessarily, you know -- 18:05:26

8 I'm using an application for the very first time. 18:05:30

9 It might be unexpected for Facebook to 18:05:33

10 broadcast -- to send a notification to some of my 18:05:39

11 friends that I was using the application. 18:05:46

12 Q. Now, unexpected or not, it would have 18:05:49

13 given those friends the ability to choose not to 18:05:51

14 share information in that context. Right? 18:05:54

15 A. So, again, in this case, the -- the way 18:05:58

16 that the Facebook Developer Platform was originally 18:06:01

17 set up was that an app -- based on the simple 18:06:03

18 founding premise that when -- if there was 18:06:10

19 information that a user could see on Facebook 18:06:13

20 because it had been shared with them on Facebook, 18:06:15

21 the -- that information would also be available to 18:06:18

22 applications that user was using. 18:06:23

23 Q. And were there discussions at Facebook of 18:06:30

24 the pros and cons of that approach to treating 18:06:33

25 information about users' friends? 18:06:37

1           A. I've seen evidence of -- I've seen           18:06:42  
2           evidence of discussions where the -- the impact of           18:06:45  
3           that model was resulting in users being concerned           18:06:49  
4           about the information that they could share with           18:06:55  
5           applications and that their friends might be           18:07:01  
6           sharing with applications, ultimately leading to           18:07:03  
7           the changes made in 2014.           18:07:06  
8           Q. And would it be fair to describe those           18:07:08  
9           concerns as "privacy concerns"?           18:07:10  
10          A. I think there are a range of concerns as           18:07:13  
11          to how information was being shared with           18:07:15  
12          third-party apps through the Developer Platform.           18:07:21  
13          Q. And were privacy concerns included in that           18:07:25  
14          range of concerns?           18:07:27  
15          A. Privacy would have been -- information           18:07:31  
16          expectation would have been one of the concerns           18:07:34  
17          that was discussed.           18:07:36  
18          Q. And by that, you mean people didn't           18:07:40  
19          realize their information was being shared in that           18:07:42  
20          way?           18:07:44  
21          A. The -- there was discussion about the fact           18:07:47  
22          that some people might not be aware that a friend           18:07:50  
23          was using an application and that that friend's --           18:07:56  
24          some of that user's friends' information had been           18:08:00  
25          shared with the app.           18:08:05

|    |   |          |
|----|---|----------|
| 1  | MR. LOESER: Okay. If we could go to               | 18:08:08 |
| 2  | Tab 5.  | 18:08:10 |
| 3  | I'm going to introduce what will be marked        | 18:08:15 |
| 4  | as Exhibit 333.                                   | 18:08:17 |
| 5  | (Deposition Exhibit 333 was marked for            | 18:08:29 |
| 6  | identification.)                                  | 18:08:30 |
| 7  | BY MR. LOESER:                                    | 18:08:31 |
| 8  | Q. In a moment you'll see an email from           | 18:08:32 |
| 9  | David Poll to Eddie O'Neil and also dated         | 18:08:35 |
| 10 | December 9, 2013.                                 | 18:08:39 |
| 11 | Do you see that on your screen?                   | 18:08:42 |
| 12 | A. I do.  | 18:08:44 |
| 13 | Q. Do you know who David Poll is?                 | 18:08:44 |
| 14 | A. David Poll was an employee of Facebook,        | 18:08:50 |
| 15 | now Meta, in the past, and I recall him being one | 18:08:54 |
| 16 | of the cofounders of a company called Parse.      | 18:08:58 |
| 17 | Q. And from -- was there discussion at            | 18:09:07 |
| 18 | Facebook about who owned friend information;      | 18:09:11 |
| 19 | whether it was the user's information or the      | 18:09:14 |
| 20 | friends' information?                             | 18:09:19 |
| 21 | A. Let me just read the exhibit before I          | 18:09:21 |
| 22 | answer your question.                             | 18:09:23 |
| 23 | Q. Sure. And I -- it's a long string, and         | 18:09:25 |
| 24 | I'm going to be asking you about some statements  | 18:09:29 |
| 25 | made by Eddie O'Neil and David Poll on the second | 18:09:32 |

|    |   |            |
|----|---|------------|
| 1  | page of the email, if that helps, on the bottom.    | 18:09:37   |
| 2  | A. (Reviewing document.)                            | 18:09:54   |
| 3  | Okay. It just scrolled.                             | 18:09:55   |
| 4  | Q. Let me apologize. Let me save some time          | 18:09:56   |
| 5  | by just referring you to -- if you go to the second | 18:09:59   |
| 6  | page, this is a chat between Eddie O'Neil and       | 18:10:01   |
| 7  | David Poll. Is that right?                          | 18:10:04   |
| 8  | A. This to me represents a chat between Eddie       | 18:10:07   |
| 9  | and David, yes.                                     | 18:10:10   |
| 10 | Q. Okay. And if you go to the bottom of the         | 18:10:11   |
| 11 | second page, about two thirds of the way down,      | 18:10:13   |
| 12 | Eddie O'Neil says:                                  | 18:10:17   |
|    | [REDACTED]  | [REDACTED] |
|    | [REDACTED]  | [REDACTED] |
|    | [REDACTED]  | [REDACTED] |
|    | [REDACTED]  | [REDACTED] |
|    | [REDACTED]  | [REDACTED] |
|    | [REDACTED]  | [REDACTED] |
| 19 | Do you see that?                                    | 18:10:32   |
| 20 | A. I do see that.                                   | 18:10:33   |
| 21 | Q. And does this -- does this suggest that at       | 18:10:35   |
| 22 | Facebook, there was discussion about who owned --   | 18:10:39   |
| 23 | and I can put in air quotes -- who owned friend     | 18:10:43   |
| 24 | information; whether it belonged to the user or     | 18:10:46   |
| 25 | belonged to the friends?                            | 18:10:48   |

1           A. My understanding, this is a discussion           18:10:54  
2           about who -- who did or should have the ability to           18:10:55  
3           choose how information was shared with third           18:11:04  
4           parties.           18:11:09

5                   It's -- I'm not sure I'd refer to it as           18:11:10  
6           "who owns," but it's certainly a discussion about           18:11:13  
7           the model or the models for which information could           18:11:19  
8           or should be shared with third parties.           18:11:25

■           ■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■                   [REDACTED]           [REDACTED]

■           ■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

■                   [REDACTED]           [REDACTED]

■           [REDACTED]           [REDACTED]

20           Q. But Facebook, obviously, knows what           18:12:08  
21           regulatory and legal issues are -- were raised with           18:12:12  
22           regard to friends permissions. Right?           18:12:22

23                   MR. BLUME: Excuse me. I object.           18:12:26

24           Privilege. Potential privilege. If I may --           18:12:28

25                   MR. LOESER: And let me -- sorry. Go           18:12:32

|   |                   |          |
|---|-------------------|----------|
| 1 | ahead, Mr. Blume. | 18:12:34 |
|---|-------------------|----------|

2 MR. BLUME: I just was asking permission 18:12:36

3 to instruct the witness unless you want to 18:12:38

4 | rephrase. 18:12:40

|   |                   |          |
|---|-------------------|----------|
| 5 | MR. LOESER: Sure. | 18:12:42 |
|---|-------------------|----------|

6 Q. Really, the point of my question was, you 18:12:42

7 | don't know the answer to this question what the 18:12:44

8 regulatory or legal issues were, but Facebook knows 18:12:46

9 | the answer to that. Right? 18:12:49

[illegible]

**[REDACTED]**

\_\_\_\_\_

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

[illegible][illegible][illegible][illegible]

\_\_\_\_\_

|   |  |          |
|---|--|----------|
| 1 | But I -- I don't want to get into the --           | 18:14:01 |
| 2 | that's what I remember. I don't want to get into   | 18:14:03 |
| 3 | the specifics. I haven't read up on the -- exactly | 18:14:06 |
| 4 | the specifics of this, but I've heard reference to | 18:14:10 |
| 5 | Lulu and read references to Lulu in the documents  | 18:14:13 |
| 6 | I've read in preparation for this testimony.       | 18:14:17 |

|   |   |          |
|---|---|----------|
| 7 | Q. And that was -- that would be one of those   | 18:14:22 |
| 8 | concerns that you would consider related to how | 18:14:24 |
| 9 | friend permissions were used by apps. Right?    | 18:14:28 |

The diagram consists of 12 horizontal black bars of varying lengths, arranged in a staggered fashion. The bars are organized into three groups of four, each group starting at a different horizontal position. The first group of four bars starts at the left edge. The second group of four bars starts further to the right. The third group of four bars starts further to the right again. The bars within each group have different lengths, with some extending nearly to the right edge and others being much shorter. The overall effect is a complex, non-linear sequence of horizontal segments.

|    |  |          |
|----|--|----------|
| 22 | Q. And if you look at the next line in | 18:15:20 |
| 23 | Mr. O'Neil's chat, it says:            | 18:15:23 |

[illegible]



2 And do you know what he is referring to 18:15:32  
3 here? 18:15:34

4 A. There's a couple of terms here. 18:15:38

5 Which one do you want me to focus on 18:15:40  
6 first? 18:15:42

7 Q. Well, is this a reference to the amount of 18:15:43  
8 information that friends permissions was making 18:15:45  
9 available to developers? 18:15:48

10 A. Reading this, it seems relevant to the 18:15:55  
11 friend permissions, but "huge amount of value" may 18:15:59  
12 refer to a number of different ways that a 18:16:03  
13 developer would perceive the -- the value of the 18:16:07  
14 experience that they had got by integrating with 18:16:13  
15 the Facebook Platform. 18:16:15

16 Q. And what are -- what -- how can you 18:16:17  
17 describe or what are the different ways that 18:16:21  
18 developers obtained value from friends permission 18:16:23  
19 information? 18:16:28

20 A. So the friend permissions allowed 18:16:32  
21 applications to build rich, engaging social 18:16:35  
22 experiences even when, you know, one -- let me 18:16:38  
23 start that again to make sure I frame this 18:16:45  
24 correctly for you. 18:16:48

25 One of the benefits of the friend 18:16:49

1 permissions for developers was that they could 18:16:51  
2 build rich, engaging social experiences, including 18:16:54  
3 those where not all of a user's friends were also 18:16:59  
4 using the same application; also using the same 18:17:04  
5 app. 18:17:09

6 That could manifest value in different 18:17:09  
7 ways. It could enable applications to be more 18:17:12  
8 retentive, so they were more frequently used a 18:17:19  
9 whole number of different ways that the developers 18:17:23  
10 might benefit from building social experiences. 18:17:26

11 Q. And what are the ways that providing 18:17:32  
12 access to friends information was at "great expense 18:17:34  
13 to Facebook as a business"? 18:17:39

14 A. So one of the ways that this might be 18:17:47  
15 considered an expense is in trust and reputation. 18:17:50  
16 Because of the way the APIs functioned originally. 18:17:57

17 And, as I've testified previously, there 18:18:03  
18 were some concerns that we'd heard from users about 18:18:06  
19 how the Platform worked, and that confusion could 18:18:10  
20 have impacted the trust in Facebook as a product. 18:18:17

21 Q. And can you -- are there other types of 18:18:24  
22 expense that Facebook recognized related to 18:18:28  
23 providing access to friends permissions to 18:18:31  
24 developers -- or partners, for that matter? 18:18:34

25 A. One way that you might classify that is 18:18:38

1 the computational energy it took to serve these 18:18:45  
2 requests. 18:18:50  
3 Actually serving an API call requires 18:18:52  
4 compute, and so that's another way that providing 18:18:56  
5 the platform in general and certain APIs would have 18:19:02  
6 been an expense to Facebook. 18:19:08  
7 Q. And what about the value of the -- of the 18:19:12  
8 friend information itself? 18:19:14  
9 Is that information valuable to Facebook 18:19:17  
10 as a business, from a monetization standpoint? 18:19:19  
11 A. Sorry. Can you help me understand the 18:19:25  
12 context of your question? 18:19:27  
13 That was a very general -- a general 18:19:29  
14 question. I would like to get to the specifics. 18:19:31  
15 Q. Sure. I'm just trying to understand from 18:19:33  
16 Facebook's perspective what the great expense to 18:19:36  
17 Facebook as a business was, and you've given me 18:19:39  
18 some examples. 18:19:42  
19 And I'm wondering if there's an economic 18:19:42  
20 impact as well that would be covered by providing 18:19:45  
21 thousands of apps with access to friend 18:19:47  
22 permissions. 18:19:50  
23 A. I'm not aware of any analysis that was 18:19:53  
24 done that specifically determined -- or attempts to 18:19:56  
25 determine the -- the financial value of friend 18:20:01

|    |  |          |
|----|--|----------|
| 1  | permissions or the friend data as part of the    | 18:20:08 |
| 2  | Developer Platform.                              | 18:20:11 |
| 3  | Q. Okay. Let's look at David Poll's text at      | 18:20:15 |
| 4  | the bottom of the page. And he states:           | 18:20:18 |
| █  | ██         | ████████ |
| █  | ██         | ████████ |
| █  | ██         | ████████ |
| █  | ██         | ████████ |
| █  | ████████████████████████████████                 | ████████ |
| 10 | Do you see that?                                 | 18:20:32 |
| 11 | A. I see that on the screen, yes.                | 18:20:33 |
| 12 | Q. And as you testified earlier, that's the      | 18:20:35 |
| 13 | type of setting that Facebook could have         | 18:20:37 |
| 14 | technically implemented had it chosen to do so.  | 18:20:40 |
| 15 | A. Let me just read the statement to make        | 18:20:44 |
| 16 | sure I can answer accurately for you.            | 18:20:46 |
| 17 | (Reviewing document.)                            | 18:21:00 |
| 18 | THE WITNESS: There's a lot of context            | 18:21:19 |
| 19 | here to unpack. So I'm just trying to understand | 18:21:21 |
| 20 | what David Poll is speaking about.               | 18:21:24 |
| 21 | So my understanding is that the "apps            | 18:21:38 |
| 22 | others use" setting was partly delivered on the  | 18:21:41 |
| 23 | expectation that -- that David is referring to   | 18:21:51 |
| 24 | here.  | 18:21:54 |
| 25 | So it would have been technically possible       | 18:21:59 |

1 to allow a user to choose whether or not an 18:22:01  
 2 application had access to their data. 18:22:10  
 3 BY MR. LOESER: 18:22:14  
 4 Q. All right. We've talked a bit about 18:22:20  
 5 the -- I'm sorry, go ahead. 18:22:22  
 6 A. Sorry. Carry on. 18:22:25  
 7 Q. Okay. So moving on, the -- I've asked you 18:22:26  
 8 some questions about the different permissions, and 18:22:28  
 9 you've provided some helpful information about the 18:22:31  
 10 terminology used to discuss different permissions. 18:22:33  
 11 I do want to make sure I have a complete 18:22:37  
 12 understanding of all of the different permissions 18:22:40  
 13 that allowed access to friend information. 18:22:44  
 14 And I asked before if a number of the 18:22:48  
 15 permissions had the word "friends" in them, and you 18:22:52  
 16 said "Yes." 18:22:56  
 17 And it's also the case the number of 18:22:57  
 18 permissions that provided access to friend 18:22:59  
 19 information did not have the word "friend" in them. 18:23:02  
 20 Is that right? 18:23:05  
 21 A. There were permissions that allowed an app 18:23:08  
 22 to access information about a user and that user's 18:23:11  
 23 friends that didn't have "friend" in the title. 18:23:17  
 24 Q. Okay. And I'm going to run through some, 18:23:22  
 25 and then you can help me understand if there are 18:23:24

1 others. 18:23:26

2 User-posts APIs are a type of -- emit 18:23:27

3 friend information. Right? 18:23:37

4 A. The user-posts API allowed an app to 18:23:38

5 access the posts of a user who had authorized the 18:23:42

6 application. 18:23:46

7 Q. And did it also provide access to the 18:23:48

8 user's friends' posts? 18:23:52

9 A. My understanding is the user-posts 18:23:56

10 permission is no. It would not have allowed an app 18:24:01

11 to access a user's friends' posts. 18:24:04

12 Q. And even where the friend responds to the 18:24:08

13 post or comments or indicates a like to a post? 18:24:10

14 A. My understanding of the way the user posts 18:24:16

15 permission worked was that it would have emitted 18:24:19

16 the posts of the user who had authorized the 18:24:23

17 application. It may have also included likes and 18:24:26

18 comments on that post. 18:24:29

19 Q. Okay. And likes and comments from a 18:24:32

20 friend would be friend information. Right? 18:24:34

21 A. Some posts, if they had only been shared 18:24:43

22 with a friend and they had been liked or commented 18:24:47

23 on by a friend, then the -- the app would be able 18:24:50

24 to see the user ID and the comment and some other 18:24:57

25 information about the comment that you could 18:25:02

|    |   |          |
|----|---|----------|
| 1  | construe as having been made by a friend.           | 18:25:05 |
| 2  | Q. Okay. And the Event API, is that a               | 18:25:08 |
| 3  | similar answer to that; that the Event API gives    | 18:25:13 |
| 4  | access to events that the user attended, but any    | 18:25:18 |
| 5  | comment or posts or other information from the      | 18:25:21 |
| 6  | friend regarding that event, that also would be     | 18:25:24 |
| 7  | accessible for the user's friends. Right?           | 18:25:28 |
| 8  | A. So, again, the specifics really matter           | 18:25:35 |
| 9  | here.   | 18:25:37 |
| 10 | The user events permission allowed an app           | 18:25:38 |
| 11 | to access the events that a user, as I understand   | 18:25:41 |
| 12 | it, had marked themselves as attending or not       | 18:25:45 |
| 13 | attending or had responded to in some way.          | 18:25:48 |
| 14 | Through that -- through the Events API,             | 18:25:56 |
| 15 | the app could also access other information about   | 18:25:58 |
| 16 | that event which may have included other attendees, | 18:26:01 |
| 17 | some of whom might be the user's friends, some of   | 18:26:05 |
| 18 | whom might not be, depending on the privacy setting | 18:26:09 |
| 19 | of the event and who was attending.                 | 18:26:14 |
| 20 | Q. Okay. And so the Events API also could           | 18:26:15 |
| 21 | obtain some friends information for those reasons.  | 18:26:19 |
| 22 | A. The events API may have allowed an app to        | 18:26:23 |
| 23 | access information about a user's friends who were  | 18:26:29 |
| 24 | attending an event that the user was attending, for | 18:26:33 |
| 25 | example.  | 18:26:39 |

|    |   |          |
|----|---|----------|
| 1  | Q. What is the "Pages API"?                         | 18:26:42 |
| 2  | A. The Pages API refers to a collection of          | 18:26:45 |
| 3  | APIs that would allow an application to access      | 18:26:48 |
| 4  | content on or information about a Facebook page.    | 18:26:52 |
| 5  | Q. And could that API also allow access to          | 18:26:58 |
| 6  | friends information of the user who used the app    | 18:27:03 |
| 7  | with access to that API?                            | 18:27:07 |
| 8  | A. So the Pages API allowed an application to       | 18:27:12 |
| 9  | access information about the page. At times, it     | 18:27:21 |
| 10 | also allowed the application to access posts on     | 18:27:24 |
| 11 | that page's timeline, and those posts could also    | 18:27:26 |
| 12 | have included comments on those posts. And those    | 18:27:31 |
| 13 | comments were publicly available on Facebook and    | 18:27:38 |
| 14 | may have been also available by the API.            | 18:27:41 |
| 15 | Q. And so that would include friends                | 18:27:44 |
| 16 | information as well. Right?                         | 18:27:46 |
| 17 | A. The Pages API could be called by an              | 18:27:49 |
| 18 | application without a specific logged-in user, and  | 18:27:52 |
| 19 | so the information available may have included      | 18:28:00 |
| 20 | friend information.                                 | 18:28:03 |
| 21 | Q. And what is the "Groups API"?                    | 18:28:06 |
| 22 | A. The Groups API refers to a collection of         | 18:28:12 |
| 23 | APIs which allow an app to access the groups that a | 18:28:15 |
| 24 | user is a member of.                                | 18:28:21 |
| 25 | Q. And could the Groups APIs also provide           | 18:28:26 |



1 access to information about friends of the app 18:28:31

2 user? 18:28:34

3 A. The Groups API would have allowed the app 18:28:37

4 to access the member list of a -- that at the time 18:28:42

5 included the member list of the groups that the 18:28:49

6 user was a member of and posts in the group that 18:28:51

7 the user was a member of. 18:28:53

8 The member list could include people who 18:28:57

9 were the app user's friends. 18:28:59

10 Q. And it could also include people who were 18:29:02

11 not the app user's friends. Right? 18:29:04

12 A. A group on Facebook can be open or closed 18:29:08

13 and secret and may contain people who are not the 18:29:14

14 user's friends, and the group's API would have 18:29:16

15 allowed the app to see the members of the group. 18:29:21

16 Q. Are you familiar with the Taggable Friends 18:29:25

17 API? 18:29:27

18 A. I am familiar with the Taggable Friends 18:29:31

19 API. 18:29:33

20 Q. And what information does that API provide 18:29:34

21 access to? 18:29:37

22 A. My understanding is that the Taggable 18:29:39

23 Friends API retrieved -- allowed an app to retrieve 18:29:43

24 a very limited set of information about the app 18:29:48

25 user's friends specifically to enable them to 18:29:51

|    |   |          |
|----|---|----------|
| 1  | render a tagging type-ahead.                        | 18:29:55 |
| 2  | Q. And what is a "tagging type-ahead"?              | 18:30:01 |
| 3  | A. I think the best way to illustrate this is       | 18:30:04 |
| 4  | through an example.                                 | 18:30:06 |
| 5  | Imagine that you are a runner and you use           | 18:30:07 |
| 6  | Strava, and you go on a run with me, but I am not a | 18:30:13 |
| 7  | Strava user. I track my runs using another app.     | 18:30:20 |
| 8  | After the run, you might choose to share            | 18:30:25 |
| 9  | your run back to Facebook, and you want to tag me,  | 18:30:29 |
| 10 | one of your Facebook friends, in that story because | 18:30:33 |
| 11 | we went on the run together.                        | 18:30:36 |
| 12 | If I don't use Strava, then there was the           | 18:30:39 |
| 13 | desire to give the app away to render a way for you | 18:30:46 |
| 14 | to tag me in that story when it was published back  | 18:30:53 |
| 15 | to Facebook.  | 18:30:56 |
| 16 | Q. Okay. So in that context, it provides            | 18:30:59 |
| 17 | friend information about the person who doesn't use | 18:31:03 |
| 18 | Strava.   | 18:31:06 |
| 19 | A. It provides a very, very limited set of          | 18:31:07 |
| 20 | information about the person -- the user's friend   | 18:31:10 |
| 21 | who doesn't use Strava.                             | 18:31:13 |
| 22 | Q. And we talked a bit about the Social             | 18:31:25 |
| 23 | Context API. And you described that as an API that  | 18:31:27 |
| 24 | provided information about a user and one other     | 18:31:32 |
| 25 | person.   | 18:31:34 |

|    |  |          |
|----|--|----------|
| 1  | Do I recall that correctly?                        | 18:31:36 |
| 2  | A. That's not the intent of my testimony.          | 18:31:37 |
| 3  | It provided the social -- it provided              | 18:31:43 |
| 4  | social context between two app users.              | 18:31:46 |
| 5  | So when you called the Social Context API,         | 18:31:50 |
| 6  | it was called on behalf of a user, and you would   | 18:31:53 |
| 7  | also specify one of that user's friends who was    | 18:31:56 |
| 8  | also -- or another user ID of somebody who was     | 18:32:01 |
| 9  | using the application, and the API would return    | 18:32:04 |
| 10 | social context between those two people.           | 18:32:07 |
| 11 | Q. And so could that API provide information       | 18:32:15 |
| 12 | about people who are not using the app with access | 18:32:18 |
| 13 | to Social Context API?                             | 18:32:22 |
| 14 | A. My understanding is the information             | 18:32:24 |
| 15 | returned by that API would be different whether or | 18:32:26 |
| 16 | not two users -- one of the users was using the    | 18:32:28 |
| 17 | application and one of the users displayed in the  | 18:32:32 |
| 18 | Social Context wasn't.                             | 18:32:36 |
| 19 | Q. And so walk me through what happens when        | 18:32:39 |
| 20 | the -- the other person is not using the app.      | 18:32:44 |
| 21 | What information about that person is              | 18:32:49 |
| 22 | provided through the app?                          | 18:32:51 |
| 23 | A. I'd need to refer to the API documentation      | 18:32:53 |
| 24 | at the time to give -- to give you specifics, but  | 18:32:56 |
| 25 | my understanding is it would return a very limited | 18:32:59 |

1 set of information about people that the two users 18:33:04  
2 had in common that were not using the application. 18:33:09  
3 Q. Okay. So let's -- let's -- let me provide 18:33:12  
4 an example. Maybe this would be helpful. 18:33:15  
5 So if a Facebook user watches a movie, 18:33:17  
6 let's say The Godfather, and the app that user 18:33:21  
7 is -- authorizes an app that has a Social Context 18:33:29  
8 API permission, what other information about people 18:33:34  
9 watching The Godfather, and from whom, would that 18:33:39  
10 API provide access? 18:33:43  
11 A. I can't -- I don't recall the specific 18:33:47  
12 behavior of the API, and I think to do that, I'd 18:33:49  
13 need to refer to the developer documentation that 18:33:52  
14 was available at the time as to how -- how that 18:33:54  
15 specific API behaved. I don't want to speculate if 18:33:57  
16 I don't have the -- the facts. 18:34:01  
17 Q. Well, let's try and create enough facts so 18:34:04  
18 you can provide some helpful information. 18:34:06  
19 Let's say a user did watch the movie 18:34:08  
20 Godfather and posts on their Facebook page, "I love 18:34:11  
21 the movie Godfather. I just watched it." 18:34:15  
22 Explain to me how the Social Context API 18:34:20  
23 would use that information and with whom it would 18:34:23  
24 use it if there's an app that has Social Context 18:34:26  
25 API. 18:34:29

1           A.   So I need to refer to the specifics about           18:34:30  
2           the -- how the social context API works.   You're           18:34:33  
3           asking a very -- a question that requires, you           18:34:36  
4           know, a detailed answer, and I don't have in my           18:34:40  
5           mind the exact behavior of how the Social Context           18:34:42  
6           API worked and the context in which it worked and           18:34:47  
7           the specifics of the information that would have           18:34:51  
8           been returned by the API.           18:34:53  
9           Q.   Okay.   Well, then, if you can, describe           18:34:56  
10          more generally -- and I'm trying to understand from           18:34:58  
11          where the Social Context API draws information.           18:35:02  
12                    So I know from what you said that it draws           18:35:05  
13          information from the user who authorized the app.           18:35:07  
14                    And what other information does it draw           18:35:10  
15          that pertains to that user?   Like -- or from who?           18:35:13  
16          Who else would be sort of folded into the -- or who           18:35:17  
17          else would be in the net that that API casts?           18:35:20  
18          A.   The precise answer depends on the           18:35:25  
19          specifics of the Social Context API.   It's one of           18:35:29  
20          the APIs that I don't have the details of exactly           18:35:31  
21          how it worked -- in my head today -- so it's hard           18:35:34  
22          to give you a specific answer to that accurately.           18:35:38  
23          Q.   Okay.   But there's -- as you mentioned,           18:35:43  
24          there's a source -- there's a place you can go at           18:35:45  
25          Facebook where you can see and learn exactly what           18:35:48

1 information that API provides access to? 18:35:51

2 A. My understanding is that the code base of 18:35:55

3 Facebook may help understand which API specifically 18:35:59

4 you're referring to and its behavior over time. 18:36:04

5 Q. And based upon what you know now, can you 18:36:09

6 say whether that API provides access to friends 18:36:12

7 information? 18:36:16

8 A. I -- again, to answer that question 18:36:19

9 specifically, I'd need to go and look at the exact 18:36:22

10 behavior of the Social Context API. There are 18:36:25

11 other APIs whose behavior I can describe. The 18:36:28

12 Social Context API, I -- I don't have the 18:36:31

13 information as to, like, exactly which API you're 18:36:34

14 referring to, exactly how it behaved, and exactly 18:36:37

15 who it was available to and when. 18:36:43

16 So I just don't want to give you incorrect 18:36:46

17 information. 18:36:49

18 Q. Well, that's fair, and I appreciate that 18:36:50

19 answer. 18:36:51

20 Do you know of or can you provide any 18:36:52

21 other APIs that provided access to friend 18:36:54

22 information? 18:36:59

23 And let me make your answer easier. Other 18:37:00

24 than those that have the word "friends" in the -- 18:37:03

25 A. When you're referring to friends 18:37:07

1 information here, can you be more specific 18:37:09

2 precisely what information -- what would classify 18:37:12

3 as friends information in your question? 18:37:15

4 Q. Yeah, and I'm trying to use the definition 18:37:17

5 we came up with before. But it's really any 18:37:19

6 information about the friends -- any Facebook data 18:37:22

7 or information about the friends of the person who 18:37:24

8 authorized the app. 18:37:26

9 A. Okay. Cool. 18:37:32

10 Some other APIs that -- that would have 18:37:36

11 been -- that fit that description, there is an API 18:37:38

12 called a "Taggable Friends API" that you've 18:37:46

13 previously mentioned. There was another one called 18:37:51

14 the "Invisible Friends API." 18:37:54

15 And then the -- several of the user 18:38:01

16 permissions, user\_posts, user\_photos, user\_videos, 18:38:08

17 as per my previous testimony, would have allowed 18:38:20

18 the app to access the user's photos, but comments 18:38:23

19 and likes on those photos by my friends may also 18:38:28

20 have been returned by that API. 18:38:33

21 Q. And you said "photos," but that would be 18:38:36

22 the same for videos as well? 18:38:38

23 A. The user photos and user videos APIs 18:38:41

24 behaved the same way, to my knowledge -- or in a 18:38:47

25 similar way, to my knowledge. 18:38:50

1 Q. And do you know, with regard to those user 18:38:52  
2 permissions, what time period they were active on 18:38:56  
3 the Platform? 18:38:58

4 A. The permissions, as I understand it, were 18:39:00  
5 added in April 2010, in terms of the permissions 18:39:03  
6 themselves. 18:39:08

7 The behavior of the APIs that were gated 18:39:11  
8 by those permissions changed over time. So it's 18:39:16  
9 hard to say exactly when the behavior changed, but 18:39:20  
10 the permissions that those -- those specific 18:39:23  
11 permissions were made available, as I understand 18:39:27  
12 it, in April 2010. 18:39:29

13 MR. BLUME: I'm sorry to -- when you're at 18:39:32  
14 a breaking point, if we could break. 18:39:34

15 MR. LOESER: Yeah. One more question. 18:39:36

16 Q. Those permissions, the user permissions 18:39:38  
17 you just described, are they still available on the 18:39:41  
18 Platform today? 18:39:44

19 A. My understanding is that some of those 18:39:47  
20 permissions are still available today, but I would 18:39:49  
21 want to review the public API documentation to be 18:39:54  
22 sure. 18:39:58

23 MR. LOESER: And I apologize, Mr. Blume, I 18:39:59  
24 just have two more questions that relate to this. 18:40:01  
25 If that's okay, I'll ask -- 18:40:04



1 MR. BLUME: Okay. 18:40:06

2 BY MR. LOESER: 18:40:06

3 Q. Now, we've gone through a number of 18:40:07

4 different APIs, and I have attempted to elicit 18:40:08

5 information about all the APIs that provide access 18:40:11

6 to friend information as we've defined that. 18:40:13

7 Is there a tool or is there a list or a 18:40:16

8 database or something at Facebook that identifies 18:40:19

9 every single API that provides friend information 18:40:22

10 in any way? 18:40:28

11 A. I'm not aware of a tool that identifies 18:40:33

12 the subset of the Facebook Developer Platform APIs 18:40:38

13 that would have returned information about a user's 18:40:42

14 friends. 18:40:47

15 Q. And do you know if, at any point, Facebook 18:40:49

16 has undertaken the effort to identify every single 18:40:51

17 API that emitted friend information? 18:40:55

18 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

19 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

20 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

21 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

22 Q. And do you know if that effort looked at 18:41:22

23 all of the different APIs that I just ran through 18:41:25

24 with you: Taggable Friends, Invisible Friends, 18:41:29

25 User Permissions, Groups, Events, Posts, and the 18:41:33

|    |  |          |
|----|--|----------|
| 1  | like?  | 18:41:36 |
| 2  | A. My understanding is that effort would have      | 18:41:38 |
| 3  | looked through all of the APIs that were commonly  | 18:41:40 |
| 4  | available on the Facebook developer endpoint       | 18:41:42 |
| 5  | platform at the time.                              | 18:41:45 |
| 6  | Q. My last question, then we can take a            | 18:41:47 |
| 7  | break:   | 18:41:49 |
| 8  | Facebook can determine definitively with           | 18:41:50 |
| 9  | respect to every API whether that API emitted any  | 18:41:53 |
| 10 | friend information. Right?                         | 18:41:57 |
| 11 | A. My understanding is that for a given API        | 18:42:02 |
| 12 | method, it is determinable what information would  | 18:42:06 |
| 13 | have been emitted by that API.                     | 18:42:10 |
| 14 | MR. LOESER: Okay. We can take a break              | 18:42:14 |
| 15 | now. Thank you for continuing on until we finished | 18:42:16 |
| 16 | that topic.  | 18:42:19 |
| 17 | THE VIDEO OPERATOR: Okay. Then we're off           | 18:42:21 |
| 18 | the record at 6:42 P.M.                            | 18:42:23 |
| 19 | (Recess from 6:42 P.M. to 7:00 P.M.)               | 18:42:25 |
| 20 | THE VIDEO OPERATOR: We're back on the              | 19:00:38 |
| 21 | record at 7:00 P.M.                                | 19:00:39 |
| 22 | MR. LOESER: Mr. Cross, we're going to put          | 19:00:44 |
| 23 | up another exhibit for you. It's previously been   | 19:00:45 |
| 24 | marked Exhibit 98.                                 | 19:00:48 |
| 25 | And while it's being loaded, this appears          | 19:00:55 |

|    |  |          |
|----|--|----------|
| 1  | to be a post from you on the internal group app  | 19:00:58 |
| 2  | review and policy enforcement feedback and       | 19:01:03 |
| 3  | questions on June 11, 2015. Is that right?       | 19:01:05 |
| 4  | A. I'm not seeing anything on the screen just    | 19:01:14 |
| 5  | yet. Or in the Veritext Egnite thing.            | 19:01:16 |
| 6  | (Previously marked Exhibit 98 was                | 19:01:21 |
| 7  | presented to the witness.)                       | 19:01:26 |
| 8  | MR. BLUME: Do you have an exhibit number?        | 19:01:28 |
| 9  | MR. LOESER: Yeah, it's Exhibit Number 98.        | 19:01:30 |
| 10 | THE WITNESS: I'm just going to quickly           | 19:01:39 |
| 11 | turn on the lights in my room. It's getting dark | 19:01:41 |
| 12 | here.  | 19:01:45 |
| 13 | Okay. I'm seeing something now. Thank            | 19:01:50 |
| 14 | you.   | 19:01:52 |
| 15 | BY MR. LOESER:                                   | 19:01:54 |
| 16 | Q. And do you see the exhibit stamp 98?          | 19:01:54 |
| 17 | A. I do.   | 19:01:58 |
| 18 | Q. Okay. And then if you look at the top of      | 19:01:59 |
| 19 | the next page, it says "App Review and Policy    | 19:02:01 |
| 20 | Enforcement Feedback and Questions."             | 19:02:04 |
| 21 | A. I see that, yes.                              | 19:02:09 |
| 22 | Q. And what -- is this a -- like, what is        | 19:02:11 |
| 23 | this?  | 19:02:13 |
| 24 | Where was this posted?                           | 19:02:15 |
| 25 | A. I can't confirm where this was posted from    | 19:02:20 |

1        what I'm seeing here.  It's -- yeah.  I -- from                    19:02:23

2        what I'm seeing on the screen, I can't 100 percent                19:02:27

3        confirm where this -- where this was posted.                    19:02:30

4            Q.  Okay.  And in June of 2015, what was your                19:02:34

5        position at Facebook?    19:02:36

6            A.  I was a product manager on the Facebook                19:02:39

7        Developer Platform.    19:02:42

8            Q.  Okay.  And was there a list serve or                    19:02:45

9        something that was -- where people provided                    19:02:48

10       feedback and questions for app review and policy                19:02:52

11       enforcement?    19:02:55

12            A.  There was likely a Facebook group.  We                19:02:57

13        used Facebook internally to discuss that.  That's                19:02:59

14        what this may be.  I just can't 100 percent confirm                19:03:03

15        it from what I'm looking at here.                                19:03:06

16            Q.  Okay.  And if you look at just your post                19:03:09

17        starting at the top, it refers to something called                19:03:13

18        [REDACTED]    [REDACTED]

19            But before I ask you questions about that,                19:03:20

20        there's a link below that.    19:03:23

21            Can you tell what that link is?                                19:03:25

22            A.  That looks to me like a -- what, a URL to                19:03:31

23        an image of -- first of all, that's what it looks                19:03:39

24        like to me.  I can't confirm if that URL is the URL                19:03:42

25        for the image directly below it.  It's possible,                19:03:47



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

9 Did I read that correctly? 19:05:41

10 A. You read that correctly. 19:05:43

11 Q. And "V2," is that a reference to Graph API 19:05:45

12 Version 2? 19:05:47

13 A. That would be a reference to Graph API 19:05:48

14 Version 2. 19:05:50

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

19 A. So the intended use, as I understand it, 19:06:06

20 and user\_posts and user\_photos was to grant apps 19:06:08

21 the ability -- well, for users to be able to 19:06:12

22 authorize an application to access their user posts 19:06:15

23 and photos for some value that the application was 19:06:19

24 providing to users. 19:06:24

25 Q. Okay. And you thought that because user 19:06:29

1 posts and user photos were emitting friend data and 19:06:31

2 Facebook had announced it had deprecated friend 19:06:34

3 data. Right? 19:06:38

4 A. So Facebook had announced it had -- it was 19:06:41

5 deprecating the friend permissions. That's what 19:06:44

6 Facebook announced as part of the API V1 changes. 19:06:49

7 So that's important to clarify. 19:06:55

8 Q. Okay. And -- but when you say that it 19:06:59

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

13 A. Several of the changes in API V2, or the 19:07:20

14 suite of things that were launched along with API 19:07:26

15 V2, were about limiting the ability of applications 19:07:29

16 to access a user's friends' content and 19:07:36

17 information. 19:07:45

18 In this case, what's still available to 19:07:46

19 this application is the likes and comments made by 19:07:50

20 a user's friends on a user's timeline posts. 19:07:54

21 Q. Okay. And how does that violate the 19:08:08

22 spirit of the V2 changes? 19:08:10

23 A. The spirit of the V2 changes, as I 19:08:16

24 recall -- trying to remember what I wrote in this 19:08:19

25 post nearly seven or eight years ago -- is the apps 19:08:23

1 would have less access to information about a 19:08:30

2 user's friends who were not using the application. 19:08:39

3 That was indeed behind any of the changes 19:08:45

4 in API V2; but in this case, the application was 19:08:51

5 still accessing some information about the user's 19:08:58

6 friends who had commented or liked on the original 19:09:02

7 post -- on the app-using user's posts. 19:09:05

8 Q. And so you expressed those concerns. 19:09:22

9 And do you recall whether this app 19:09:27

10 continued to have access to the user posts and user 19:09:30

11 photos after you expressed these concerns? 19:09:35

12 A. From reading the thread that continues 19:09:40

13 below -- below this, it looks like the conclusion 19:09:45

14 was reached that this activity was not against 19:09:48

15 policy as defined at the time, and this access -- 19:09:54

16 this use case should continue. 19:10:00

17 I don't recall -- I do not know what 19:10:05

18 happened to the app CaptainQuizz over time. 19:10:08

19 Q. Now, Mr. Cross, there were thousands of 19:10:24

20 [REDACTED] 19:10:24

21 that right? 19:10:28

22 A. Over what time period are you referring 19:10:35

23 to? 19:10:37

24 Q. Oh, that's a good question. 19:10:38

25 So prior to the introduction of Graph API 19:10:40



1 Version 2, there were thousands of apps that had 19:10:43

2 access to friend permissions. Right? 19:10:46

3 A. Prior to the introduction of API 19:10:49

4 Version 2, any application on the Facebook 19:10:51

5 Developer Platform could request the friend 19:10:53

6 permissions from users. 19:10:56

7 Q. And Facebook evaluated the number of apps 19:10:59

8 that had access to friend permissions as part of 19:11:04

9 its preparation for the introduction of Graph API 19:11:08

10 Version 2. Right? 19:11:12

11 A. In preparation for the changes launched on 19:11:15

12 April 30, 2015, a number of initiatives were 19:11:18

13 undertook to understand the potential impact of 19:11:24

14 these changes on the developer ecosystem. 19:11:26

15 Q. And included in those initiatives was 19:11:31

16 identifying the number of users who downloaded apps 19:11:34

17 with access to friend information. Right? 19:11:37

18 A. Can you help me understand what you mean 19:11:40

19 by "downloaded"? 19:11:41

20 Q. I'm sorry. Installed the apps. 19:11:43

21 A. My understanding is that one of the things 19:11:50

22 that was looked at is the number of users who had 19:11:52

23 granted one or more friend permissions to one or 19:11:56

24 more applications. 19:11:59

25 Q. And as part of those initiatives as well, 19:12:01

1 Facebook identified the number of API calls on the 19:12:05

2 friend-sharing APIs. Right? 19:12:09

3 A. I would need to see, like, specific 19:12:16

4 documentation there. 19:12:19

5 Like, recall there was no such thing as 19:12:21

6 the friend APIs. There are friend permissions, and 19:12:25

7 there are APIs, and those APIs can be called by the 19:12:29

8 app-using user or on behalf of that app-using 19:12:32

9 user's friends. 19:12:38

10 So, again, I want to make sure I'm giving 19:12:39

11 you the right answer, given the specifics. 19:12:41

12 Q. I appreciate that. So let's speak in 19:12:43

13 terms of friend permissions, then. 19:12:45

14 One of the things that Facebook can 19:12:47

15 identify is the number of API calls on any of the 19:12:49

16 permissions that are available on the Platform. 19:12:53

17 Right? 19:12:56

18 A. So, again, the -- 19:13:00

19 Q. Or did I mix up the terminology -- the 19:13:01

20 calls are referred to the APIs themselves, not the 19:13:03

21 permissions. Is that right? 19:13:06

22 A. When you -- when you see a reference to 19:13:07

23 "API calls," that's referring to APIs. 19:13:09

24 The permissions determine what information 19:13:12

25 is available via those APIs. 19:13:15

1                   So, yeah, those concepts are separate,                   19:13:18  
2                   yeah.                   19:13:21

3                   Q.   So Facebook can identify and did identify                   19:13:21  
4                   the number of API calls on the APIs that provided                   19:13:24  
5                   access to friend information.                   19:13:30

6                   A.   The -- the documents I've read show that                   19:13:41  
7                   there was an effort done to determine how API calls                   19:13:45  
8                   that were made by applications -- and some of the                   19:13:50  
9                   API calls -- some of the APIs would -- would                   19:13:54  
10                  specifically map to friend data; other API calls                   19:13:59  
11                  would not be specific to friend data.                   19:14:03

12                  Q.   And I appreciate that.   And I'm trying to                   19:14:08  
13                  make sure I understand what Facebook knew about the                   19:14:10  
14                  use of APIs that provided access to friend                   19:14:13  
15                  information.                   19:14:18

16                  And my understanding is that Facebook                   19:14:18  
17                  identified that thousands of apps installed by                   19:14:20  
18                  millions of users made millions of calls on                   19:14:24  
19                  friend-sharing APIs.   Is that a fair statement?                   19:14:27

20                  A.   No.   The -- the friend-sharing API part of                   19:14:31  
21                  that doesn't map with my understanding of how the                   19:14:36  
22                  platform worked.                   19:14:39

23                  If you could show me a document that                   19:14:40  
24                  states that, that might be helpful for me to                   19:14:42  
25                  analyze.                   19:14:45

1 Q. Yeah. And we'll get into a document 19:14:47  
2 that -- 'cause as you say, there were various 19:14:49  
3 initiatives that studied the extent to which friend 19:14:52  
4 information was made available by apps via APIs 19:14:56  
5 that provided access to that information. Okay. 19:15:01  
6 Right? 19:15:05  
7 A. There were a number of studies done to 19:15:05  
8 analyze the use of the Platform by developers and 19:15:08  
9 how they were using the Platform and which 19:15:12  
10 permissions they were requesting and which APIs 19:15:15  
11 they were -- they were calling. 19:15:17  
12 Q. And deprecating -- and I hope I'm using 19:15:20  
13 the terminology right -- but deprecating friend 19:15:24  
14 permissions, that was a thing. Right? 19:15:27  
15 A. In API Version 2, the friend permissions 19:15:31  
16 were not readily grantable by a user using an 19:15:35  
17 application that was using API Version 2. 19:15:40  
18 Q. And that was a big change at Facebook 19:15:44  
19 because thousands of apps had access to the APIs 19:15:46  
20 that allowed friend-sharing. Right? 19:15:52  
21 A. The way that the Facebook Developer 19:16:01  
22 Platform worked before API Version 2 allowed any 19:16:03  
23 application to request friend permissions, and a 19:16:08  
24 number of applications did so. 19:16:14  
25 And so the removal of those permissions 19:16:17

1 from the public API surface area in API Version 2, 19:16:21

2 yes, was considered a significant change to the 19:16:27

3 Facebook Developer Platform. 19:16:30

4 MR. LOESER: If we could go to Tab 8. 19:16:35

5 (Deposition Exhibit 334 was marked for 19:17:10

6 identification.) 19:17:12

7 MR. LOESER: This is Exhibit 334. The 19:17:15

8 Bates number on this is 01685319.ppt. 19:17:20

9 Q. Is that right? 19:17:26

10 And, Mr. Cross, do you see what's on your 19:17:28

11 screen? 19:17:30

12 A. I do. 19:17:30

13 Q. And this is -- you can take a minute to 19:17:32

14 skim through it. I just have a few questions about 19:17:36

15 this slide deck. And the first page says: "Login 19:17:39

16 V4 (+PS12n) - 1/24/2014 update." 19:17:42

17 Can you describe what this refers to just 19:17:49

18 by looking at the title of it? 19:17:55

19 A. "Login V4" refers to the update to the 19:17:57

20 Facebook Platform Login dialogue that were launched 19:18:00

21 in -- as part of the changes announced on 19:18:06

22 April 30, 2014. So that's what "Login V4" refers 19:18:10

23 to. 19:18:16

24 And "PS12n" refers to a term called 19:18:16

25 "platform simplification," which was one of the 19:18:20

1 terms used as part of the work that led up to the 19:18:23  
2 changes that were announced in -- on April 30, 19:18:30  
3 2014. 19:18:34

4 Q. Okay. And if you -- if you turn to the 19:18:37  
5 next page of that slide deck, there's an "Overview" 19:18:41  
6 slide which describes the content of this 19:18:47  
7 presentation. 19:18:51

■ [REDACTED] [REDACTED] [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

13 Did I read that correctly? 19:19:05

14 A. You read that correctly. 19:19:06

15 Q. And we've discussed user trust. 19:19:07

16 What does "developer trust" refer to? 19:19:10

17 A. "Developer trust" refers to how Facebook 19:19:14  
18 thought about its relationship with its platform 19:19:17  
19 developers; whether or not those developers would 19:19:21  
20 be keen to continue developing integrations with 19:19:27  
21 the Facebook Developer Platform. 19:19:31

22 Q. And why did Facebook want developers to do 19:19:33  
23 that? 19:19:36

24 A. If you're building a developer platform, 19:19:40  
25 you typically want developers to build for your 19:19:43

|    |   |          |
|----|---|----------|
| 1  | developer platform.                                 | 19:19:46 |
| 2  | Q. And what does Facebook gain from that?           | 19:19:48 |
| 3  | A. Facebook gained a number of things from          | 19:19:55 |
| 4  | its Developer Platform, various different types,    | 19:19:56 |
| 5  | depending on the functionality of the app provided. | 19:20:03 |
| 6  | Q. Okay. Are there a couple of main                 | 19:20:08 |
| 7  | priorities?   | 19:20:11 |
| 8  | A. One example would be allowing apps that          | 19:20:15 |
| 9  | would -- users using applications where users would | 19:20:22 |
| 10 | share content or activity in their applications     | 19:20:26 |
| 11 | back to Facebook so that it could be seen on        | 19:20:31 |
| 12 | Facebook by that user's friends on that Newsfeed.   | 19:20:33 |
| 13 | Q. And did Facebook, then, have an appetite         | 19:20:38 |
| 14 | for more information because it utilized that       | 19:20:42 |
| 15 | information in its Advertising Platform?            | 19:20:44 |
| 16 | A. I haven't prepared to talk about how the         | 19:20:51 |
| 17 | advertising systems work. That's -- that's not my   | 19:20:54 |
| 18 | area of expertise in general, and it's not          | 19:20:57 |
| 19 | something I prepared in this -- to testify on. I    | 19:21:01 |
| 20 | understand there are other people doing that.       | 19:21:04 |
| 21 | My understanding of the reason why we were          | 19:21:09 |
| 22 | keen for apps to share contact back to Facebook is  | 19:21:13 |
| 23 | that that would result in content on Facebook that  | 19:21:18 |
| 24 | could be viewed in Newsfeed that people could like  | 19:21:21 |
| 25 | and comment and reshare.                            | 19:21:24 |

1 Q. And -- and you're not knowledgeable about 19:21:26  
 2 whether it was also -- that information was used 19:21:29  
 3 to -- for the benefit of the targeted advertising 19:21:32  
 4 systems? 19:21:36

5 A. I am not an expert in how Facebook's 19:21:38  
 6 targeted advertising systems work or what 19:21:41  
 7 information is used to inform how ad-targeting 19:21:43  
 8 works. 19:21:48

■ ■ [REDACTED] [REDACTED]  
 ■ [REDACTED] [REDACTED]  
 ■ [REDACTED] [REDACTED]  
 ■ ■ [REDACTED] [REDACTED]  
 ■ [REDACTED] [REDACTED]  
 ■ [REDACTED] [REDACTED]  
 ■ [REDACTED] [REDACTED]

16 Q. Okay. If you could turn to page 6 of this 19:22:24  
 17 slide deck -- and it doesn't have page numbers on 19:22:28  
 18 it, so we'll flip to the sixth page and tell you, 19:22:31  
 19 "This is the sixth page." 19:22:34

20 Do you see the slide on the screen now? 19:22:36

21 A. I do. 19:22:40

22 Q. And do you see the title of that slide? 19:22:41

23 A. I do. 19:22:44

24 Q. And what does it say? 19:22:46

■ ■ [REDACTED] [REDACTED]



1 [REDACTED] [REDACTED] [REDACTED]

2 A. I -- I don't know what high-value perms 19:22:57

3 are in a general context. The slide includes a 19:23:04

4 number of permissions that were available on the 19:23:07

5 Facebook Developer Platform, and this slide is by 19:23:10

6 inference calling those "high-value perms." 19:23:15

7 But I can't say today exactly what 19:23:18

8 "high-value perms" means in general. 19:23:20

9 Q. And what is Facebook's definition of 19:23:24

10 "high-value perms"? 19:23:27

11 And I assume that's the permissions. So 19:23:30

12 high-value permissions? 19:23:32

13 A. I'm not aware of Facebook having a 19:23:34

14 definition of "high-value perms" that's general and 19:23:35

15 commonly used. This seems to be a set of 19:23:38

16 terminology created by the author of this deck. 19:23:43

17 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

18 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

19 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

20 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

21 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

22 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

23 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

24 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

25 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

26 [REDACTED] [REDACTED] [REDACTED] [REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

12 A. Well, I can see on the slide the number of 19:24:58

13 permissions that the author of this deck has 19:25:01

14 somehow categorized as "high-value perms." 19:25:04

15 But, like I said, this isn't -- this 19:25:07

16 doesn't resonate to me as a -- as a general 19:25:09

17 classification that was widely used. 19:25:13

[REDACTED]

[REDACTED]

[REDACTED]

21 right? 19:25:26

22 A. That's what I see in the column header, 19:25:28

23 yeah. 19:25:30

24 Q. And so earlier, I was asking you questions 19:25:32

25 to try and get a scope -- understand the scope of 19:25:34

1 friend-sharing use in particular. 19:25:38

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

10 It's not clear from what I'm seeing here 19:26:16

11 whether or not that was an average or what 19:26:19

12 particular day or from what time period that data 19:26:21

13 was collected, to be clear. 19:26:23

14 Q. And earlier you talked about various 19:26:27

15 initiatives that Facebook undertook before 19:26:29

16 implementing the new version of the graph. 19:26:32

17 And does this appear to be one of the 19:26:35

18 evaluations that Facebook did of the extent of the 19:26:37

19 use of various permissions that were going to be 19:26:40

20 deprecated? 19:26:44

21 A. Given my understanding of the -- of the 19:26:48

22 date of this slide deck, given it was before the 19:26:50

23 changes were announced and the data contained 19:26:54

24 within, it seems reasonable that this is an output 19:26:57

25 of some of the analysis that was done to understand 19:27:03



|    |   |          |
|----|---|----------|
| 1  | A. My first step would be to try and identify       | 19:28:40 |
| 2  | the author of the deck and to see if they are       | 19:28:43 |
| 3  | contactable and to attempt to determine if they     | 19:28:49 |
| 4  | recall how this determination was made.             | 19:28:52 |
| 5  | Q. Is asking Mark perhaps one of the ways to        | 19:28:58 |
| 6  | find the answer to that as well?                    | 19:29:00 |
| 7  | A. I doubt Mark would know how this slide           | 19:29:02 |
| 8  | deck was prepared or what went into determining     | 19:29:05 |
| 9  | that number on the screen.                          | 19:29:08 |
| 10 | Q. And without having any commentary on the         | 19:29:11 |
| 11 | fact that Sheryl has more friends than Mark, where  | 19:29:14 |
| 12 | would one go to find out what key apps are Sheryl's | 19:29:17 |
| 13 | friends?  | 19:29:21 |
| 14 | A. Well, so first of all, you said there that       | 19:29:22 |
| 15 | Sheryl has more friends than Mark.                  | 19:29:28 |
| 16 | The numbers here refer to apps, not                 | 19:29:31 |
| 17 | friends, to be clear.                               | 19:29:34 |
| 18 | And the same answer applies here, which is          | 19:29:35 |
| 19 | I -- I do not know how this slide deck was created  | 19:29:40 |
| 20 | or who created it or how they came to this          | 19:29:45 |
| 21 | determination. There's no evidence here of how      | 19:29:49 |
| 22 | that was determined.                                | 19:29:54 |
| 23 | Q. So I can tell you from the metadata that         | 19:29:55 |
| 24 | this is from Eddie O'Neil's custodial file.         | 19:29:57 |
| 25 | So does that suggest to you that you would          | 19:30:02 |

1 ask -- if he's the author of this deck, you could 19:30:04

2 ask him how he came up with these numbers? 19:30:07

3 A. If he is indeed the author of the deck, 19:30:09

4 it's -- he could be asked. Whether or not he would 19:30:15

5 recall how these numbers were derived is a question 19:30:17

6 for him. 19:30:21

7 Q. Okay. And what is "Generating TPV"? 19:30:23

8 What is "TPV"? 19:30:27

9 A. TPV in this context refers to total 19:30:29

10 payment volume, which is the payments happening in 19:30:31

11 the games, as I understand it, that are being 19:30:39

12 referred to here. 19:30:44

13 Q. Okay. So this appears that when 19:30:47

14 evaluating the deprecation of certain permissions, 19:30:50

15 Mr. O'Neil identified key apps that were generating 19:30:55

16 TPV. Correct? 19:30:59

17 A. Sorry. Can you ask that again? I want to 19:31:02

18 make sure I -- 19:31:04

19 Q. Yeah, I'm just trying to understand -- 19:31:05

20 sorry, we're talking at the same time, which is my 19:31:07

21 fault. 19:31:10

22 But I'm trying to understand the -- this 19:31:10

23 appears to be an analysis of what APIs were going 19:31:12

24 to be deprecated, but also what apps would be 19:31:16

25 affected by those deprecations. Right? 19:31:20

1                   And so one of the categories here that                   19:31:23  
2                   appears was -- that was being evaluated was whether           19:31:24  
3                   the app that could be impacted by deprecation was           19:31:27  
4                   generating TPV.                   19:31:32

5                   Is that a fair read?                   19:31:34

6                   A. My understanding is this deck has referred           19:31:36  
7                   to a range of potentially to-be-deprecated APIs and           19:31:38  
8                   permissions -- sorry -- specifically, the previous           19:31:46  
9                   slide refers to permissions that were at this point           19:31:49  
10                  proposed to be deprecated, publicly -- not publicly       19:31:53  
11                  available to developers anymore, and the "Key apps"       19:31:59  
12                  slide is an attempt to quantify the number of apps       19:32:02  
13                  that the author estimated to be impacted by those       19:32:05  
14                  deprecations.                   19:32:09

15                  Q. And what -- is it "Neko"? Is that "Neko           19:32:12  
16                  spenders"?                   19:32:17

17                  A. Neko or Neko, that refers to a product           19:32:18  
18                  that is -- that came to be known as "Mobile App       19:32:24  
19                  Install Ads."                   19:32:27

20                  Q. Okay. And what are "Neko spenders"?           19:32:31

21                  A. So my understanding is that would refer to       19:32:36  
22                  apps that were -- in some period of time had spent       19:32:38  
23                  some money on mobile app install ads.           19:32:42

24                  Q. And when you say "spend some money," what       19:32:47  
25                  does that mean?                   19:32:50

|   |   |          |
|---|---|----------|
| 1 | A. "Mobile App Install Ads" is an ads             | 19:32:52 |
| 2 | product. And so if a developer wanted to have ads | 19:32:57 |
| 3 | for their app, then they would buy those ads just | 19:33:02 |
| 4 | like any other ad on Facebook.                    | 19:33:06 |

|  |            |            |            |
|--|------------|------------|------------|
|  | (b) (6)    | [REDACTED] | [REDACTED] |
|  | (b) (7)(C) | [REDACTED] | [REDACTED] |
|  | (b) (7)(D) | [REDACTED] | [REDACTED] |

|   |   |          |
|---|---|----------|
| 8 | A. I don't know what "Noisy" refers to. | 19:33:22 |
|---|---|----------|

|    |                                      |          |
|----|--------------------------------------|----------|
| 9  | Q. And what about "T0/" -- or "T0/T1 | 19:33:24 |
| 10 | partners?"                           | 19:33:30 |

```
11 | Do you know what that refers to? 19:33:31
```

|    |   |          |
|----|---|----------|
| 12 | A. That's referring to some kind of partner         | 19:33:33 |
| 13 | categorization that would have been in use at the   | 19:33:35 |
| 14 | time, but there are a number of different ways that | 19:33:37 |
| 15 | the partnership team would have classified and      | 19:33:40 |
| 16 | categorized apps over time.                         | 19:33:46 |

|    |  |          |
|----|--|----------|
| 17 | Q. Do you know what a "T0 partner" is? | 19:33:48 |
|----|--|----------|

|    |  |          |
|----|--|----------|
| 18 | A. It would have been some categorization          | 19:33:51 |
| 19 | that the platform partnerships team was using, but | 19:33:53 |
| 20 | I don't know exactly what T0 -- the criteria to be | 19:33:57 |
| 21 | classified as a T0 app was.                        | 19:34:05 |

|    |   |          |
|----|---|----------|
| 22 | Q. And then T1, it -- my understanding is it    | 19:34:07 |
| 23 | has to do with the importance of the partner to | 19:34:11 |
| 24 | Facebook.                                       | 19:34:14 |

|    |                              |          |
|----|------------------------------|----------|
| 25 | Is that consistent with your | 19:34:14 |
|----|------------------------------|----------|



1 understanding? 19:34:16

2 A. My understanding is there were various 19:34:17

3 tiers of partners, Tier 0 being the top, Tier 1 19:34:20

4 being one below. 19:34:25

5 But again, I -- it's unclear. I am unable 19:34:27

6 to say what was -- why an app would be categorized 19:34:31

7 in Tier 0 versus Tier 1. 19:34:35

8 Q. And does Facebook classify its partners 19:34:38

9 differently based upon how much revenue Facebook 19:34:43

10 receives from the partner? 19:34:47

11 A. I don't know how the -- the tiering, as 19:34:53

12 represented here, was -- was determined. My 19:34:56

13 understanding is there would have been a range of 19:34:59

14 factors that would have gone into that tiering 19:35:01

15 determination. 19:35:06

16 Q. Now, my understanding of the -- of the 19:35:14

17 purpose of allowing an app to have access to friend 19:35:18

18 information was to use that information in the -- 19:35:22

19 solely in the context of the person who authorized 19:35:28

20 the app to obtain the information. 19:35:32

21 Is that your understanding? 19:35:34

22 A. My understanding is that the existence of 19:35:43

23 the ability for apps to access information about a 19:35:50

24 user who used the app and their friends was to 19:35:54

25 build an engaging social experience for that user. 19:35:59

1 Q. And there were rules at Facebook, 19:36:03  
2 developer rules, that limited the use of friend 19:36:06  
3 information to the purpose you just described. Is 19:36:09  
4 that right? 19:36:12

5 A. There was a range of platform policies 19:36:15  
6 that developers -- it was a specific set of 19:36:17  
7 platform policies that the -- that developers of 19:36:20  
8 the Facebook app -- the developers of apps that 19:36:25  
9 used the Facebook Developer Platform would have to 19:36:27  
10 agree to. 19:36:32

11 Q. And so if an app gets access to friend 19:36:34  
12 data and then uses that information to target the 19:36:39  
13 friends of the app users with advertisements, that 19:36:41  
14 would be an example of an app using friend 19:36:46  
15 information in a way that is -- that violates 19:36:48  
16 Facebook's developer policies. Is that right? 19:36:52

17 MR. BLUME: Objection to scope. 19:36:55

18 THE WITNESS: Sorry. I haven't prepared 19:37:00  
19 to speak to Facebook's developer policies and 19:37:01  
20 precisely what they allowed or prohibited -- and 19:37:04  
21 also how Facebook's advertising ecosystem worked. 19:37:09

22 BY MR. LOESER: 19:37:15

23 Q. And based upon your knowledge of the 19:37:19  
24 platform, was my statement correct? 19:37:20

25 A. I -- I am not -- I'm not sure I can 19:37:24

|    |   |          |
|----|---|----------|
| 1  | confirm exactly that -- that statement. I am not    | 19:37:33 |
| 2  | sure, as I sit here today, exactly what the         | 19:37:37 |
| 3  | policies were at any given time in the past.        | 19:37:39 |
| 4  | Q. Okay. Let me ask one more related                | 19:37:46 |
| 5  | question. Perhaps this is something that you are    | 19:37:48 |
| 6  | familiar with.                                      | 19:37:50 |
| 7  | If an app gets access to friend data and            | 19:37:51 |
| 8  | then sells that friend information to another third | 19:37:53 |
| 9  | party, would that be an example of the app using    | 19:37:56 |
| 10 | friend information in a way that is not solely      | 19:37:59 |
| 11 | within the app user's experience?                   | 19:38:03 |
| 12 | A. If an app developer is making data               | 19:38:10 |
| 13 | available to another entity that isn't -- that --   | 19:38:16 |
| 14 | it's hard -- yeah.                                  | 19:38:26 |
| 15 | It's hard for me to, like, give a specific          | 19:38:27 |
| 16 | answer to that based on my understanding of how     | 19:38:29 |
| 17 | the -- of what was and wasn't okay in terms of the  | 19:38:33 |
| 18 | Facebook Developer Platform policies.               | 19:38:37 |
| 19 | Q. Okay. But you described for me Facebook's        | 19:38:39 |
| 20 | understanding of how friend information was to be   | 19:38:43 |
| 21 | used, which was to create the experience between    | 19:38:45 |
| 22 | the user of the app and the app. Right?             | 19:38:48 |
| 23 | A. So my answer there was referring to my           | 19:38:52 |
| 24 | understanding of the -- the primary reason why the  | 19:38:56 |
| 25 | Facebook Platform existed, which was to primarily   | 19:38:59 |

1 allow developers to build engaging social 19:39:04  
2 experiences that users could interact with that was 19:39:08  
3 valuable to them. 19:39:11

4 Q. And Facebook did not intend in that 19:39:12  
5 context for apps to use friend information it 19:39:15  
6 obtained from a user outside of the context of the 19:39:18  
7 user's experience with that app. Right? 19:39:25

8 A. So there were a number of users -- uses of 19:39:29  
9 the Facebook Developer Platform where 19:39:33  
10 information -- often publicly available information 19:39:37  
11 about a user's activity would be available to an 19:39:40  
12 app developer without the user explicitly 19:39:43  
13 authorizing the application. 19:39:47

14 Q. And let's confine our answer to 19:39:53  
15 information obtained about a friend that was 19:39:55  
16 intended for friends only; that wasn't public. 19:39:57

17 And I'm just trying to understand kind of 19:40:01  
18 how friend-sharing works. It's not a trick 19:40:04  
19 question. I'm just trying to understand if an app 19:40:06  
20 obtains friend information but then uses that 19:40:08  
21 information for purposes other than the experience 19:40:10  
22 of the app user and the app, is that something that 19:40:12  
23 is beyond what Facebook intended when it provided 19:40:16  
24 access to the friend information? 19:40:20

25 A. So limited to -- limited to the context of 19:40:27

1 a user having explicitly authorized an application 19:40:30  
2 and then that application having access to the -- 19:40:36  
3 the data made available via the friend permissions, 19:40:39  
4 my understanding is that the -- that that 19:40:43  
5 information was to be used within the context of 19:40:46  
6 the application that the user was using. 19:40:48

7 Q. Did Facebook have any technology making it 19:40:51  
8 impossible for apps to use friend data other than 19:40:54  
9 in connection with the app user? 19:40:58

10 A. One piece of technology Facebook has, or 19:41:06  
11 had, is the privacy settings available governing 19:41:11  
12 visibility of content on Facebook. 19:41:18

13 As a result, it's possible that, for 19:41:22  
14 example, if we were friends and you posted a post, 19:41:26  
15 you could make that post not visible to me, even 19:41:31  
16 though we were friends using on-Facebook privacy 19:41:36  
17 settings. 19:41:40

18 If you had done that, then that piece of 19:41:41  
19 content wouldn't be available via the API if it was 19:41:44  
20 being called on my behalf. 19:41:50

21 Q. Okay. And if you have shared information 19:41:52  
22 with your friend based upon your privacy setting 19:41:54  
23 that allowed friends to have that information, was 19:41:59  
24 there technology that prevented an app from -- 19:42:01  
25 could Facebook have utilized technology that would 19:42:07

|    |  |          |
|----|--|----------|
| 1  | prevent that app from getting the friend           | 19:42:10 |
| 2  | information since the app is not the friend of the | 19:42:13 |
| 3  | person who posted it?                              | 19:42:15 |
| 4  | A. So the -- again, which time frame are you       | 19:42:17 |
| 5  | referring to here?                                 | 19:42:20 |
| 6  | Q. At any point since 2007.                        | 19:42:22 |
| 7  | A. Okay. So once a -- once an app makes an         | 19:42:25 |
| 8  | API call on behalf of a user and the Facebook API  | 19:42:32 |
| 9  | returns that information to the application, then  | 19:42:38 |
| 10 | the application or the developer, whether or not   | 19:42:44 |
| 11 | that's their servers or the code, technically has  | 19:42:48 |
| 12 | access to that information.                        | 19:42:51 |
| 13 | And once they have that information,               | 19:42:54 |
| 14 | the -- there's very little -- there's no technical | 19:42:57 |
| 15 | way for Facebook to prevent it being used outside  | 19:43:01 |
| 16 | the use of the application itself.                 | 19:43:06 |
| 17 | Q. Does Facebook perform financial analysis        | 19:43:17 |
| 18 | of the different products it offers?               | 19:43:20 |
| 19 | A. That's a very --                                | 19:43:25 |
| 20 | Sorry, Rob, it looks like you were going           | 19:43:27 |
| 21 | to say something.                                  | 19:43:30 |
| 22 | MR. BLUME: I was just going to object to           | 19:43:31 |
| 23 | the form.  | 19:43:33 |
| 24 | THE WITNESS: Facebook as a company does            | 19:43:40 |
| 25 | look at its various products and how they are      | 19:43:44 |

1 performing. 19:43:47

2 BY MR. LOESER: 19:43:47

3 Q. Okay. And do the different products 19:43:48

4 engage in analysis of revenue and the income, 19:43:50

5 et cetera, of that product to -- to Facebook? 19:43:55

6 A. Different products assess their 19:44:01

7 performance in different ways. Ads products, for 19:44:02

8 example, typically would look at revenue as to 19:44:06

9 whether or not they were performing. 19:44:10

10 Q. And what about partnership-based products? 19:44:14

11 Are there partnership-based products? 19:44:18

12 A. Help me understand what you mean by 19:44:21

13 "partnership-based products." 19:44:23

14 Q. Well, you were in the Partnership team. 19:44:25

15 Did it have a product? 19:44:27

16 A. The Partnership team doesn't have 19:44:29

17 products, no. 19:44:30

18 Q. And does it report revenue or income? 19:44:33

19 A. The Partnership -- the Platform 19:44:39

20 Partnerships team would typically assess the 19:44:41

21 utilization of the Facebook Developer Platform 19:44:49

22 product by Platform developers, and income from 19:44:52

23 Platform developers is one of the things that may 19:45:01

24 have been looked at in terms of understanding the 19:45:05

25 performance of the Platform products. 19:45:08

1 Q. And what types of income did Facebook 19:45:11  
2 receive from Platform developers? 19:45:13  
3 A. The types of income that Facebook would 19:45:18  
4 receive from Platform developers were, broadly: 19:45:21  
5 One, ad spend related to the Platform developer's 19:45:25  
6 products; and, two, in the case of games that used 19:45:35  
7 in-game currency where that game was rendered 19:45:41  
8 inside the Facebook Chrome on the web, Facebook 19:45:44  
9 would take a cut of the total payment volume inside 19:45:54  
10 of that game or app. 19:45:59  
11 Q. And does Facebook consider the user data 19:46:07  
12 it collects and infers about users valuable? 19:46:09  
13 A. Can you help me understand the -- the 19:46:15  
14 context, as in -- yeah. 19:46:17  
15 Can you help me understand the context 19:46:20  
16 you're asking in? 19:46:21  
17 Q. Sure. I'll ask more specifically. 19:46:22  
18 Did Facebook do any financial analysis of 19:46:24  
19 the value of user data it collects and infers about 19:46:26  
20 users? 19:46:30  
21 A. In -- let me understand. In any way, 19:46:39  
22 across any part of the company? Is that what 19:46:41  
23 you're asking? 19:46:43  
24 Q. Yes. Yes. We can start big and go small. 19:46:44  
25 So, in any way. 19:46:47



|    |  |          |
|----|--|----------|
| 1  | MR. BLUME: Objection to scope.                     | 19:46:50 |
| 2  | THE WITNESS: Yeah. It's hard for me to             | 19:46:52 |
| 3  | answer that question at the full company level.    | 19:46:54 |
| 4  | That's not what I've prepared to testify on.       | 19:46:57 |
| 5  | On a personal level, there -- I can say            | 19:47:00 |
| 6  | that there are products that the -- where the --   | 19:47:04 |
| 7  | where, like, the impact of the -- or the -- it's   | 19:47:18 |
| 8  | hard for me to say. I can't give you a very crisp  | 19:47:22 |
| 9  | and clear and accurate answer to that -- to that   | 19:47:26 |
| 10 | question. It's not what I've testified on, and I'd | 19:47:28 |
| 11 | be giving you an inappropriate answer, I think.    | 19:47:31 |
| 12 | BY MR. LOESER:                                     | 19:47:36 |
| 13 | Q. If I wanted to have Facebook answer the         | 19:47:36 |
| 14 | question whether it does financial analysis of the | 19:47:38 |
| 15 | value of user data that it collects, where would I | 19:47:40 |
| 16 | go in the company to get information about that?   | 19:47:44 |
| 17 | Is that the finance department or -- or            | 19:47:47 |
| 18 | where would that get reported?                     | 19:47:50 |
| 19 | MR. BLUME: Objection. Beyond the scope.            | 19:47:52 |
| 20 | THE WITNESS: Yeah, I think different               | 19:47:57 |
| 21 | teams assess the performance of their products in  | 19:47:59 |
| 22 | different ways, and those products involve         | 19:48:02 |
| 23 | different kinds of information.                    | 19:48:05 |
| 24 | So it's really hard to give you a specific         | 19:48:07 |
| 25 | answer to that question. I couldn't give you a     | 19:48:09 |

|    |   |          |
|----|---|----------|
| 1  | specific answer to that question.                   | 19:48:11 |
| 2  | BY MR. LOESER:                                      | 19:48:15 |
| 3  | Q. Okay. And has Facebook done any analysis         | 19:48:15 |
| 4  | of the value of the data it makes available to      | 19:48:17 |
| 5  | third parties through the Facebook Social Graph?    | 19:48:20 |
| 6  | MR. BLUME: Objection. Scope.                        | 19:48:24 |
| 7  | THE WITNESS: I've seen some analysis of             | 19:48:33 |
| 8  | the impact of the Platform changes that were        | 19:48:34 |
| 9  | proposed, and I've also seen and heard about        | 19:48:37 |
| 10 | analysis done of the -- of the use of the Facebook  | 19:48:43 |
| 11 | Developer Platform in terms of how people use it    | 19:48:46 |
| 12 | and how that contributes revenue to Facebook. But   | 19:48:51 |
| 13 | I've -- I don't recall seeing analysis specific to, | 19:48:58 |
| 14 | like, the user data itself.                         | 19:49:01 |
| 15 | BY MR. LOESER:                                      | 19:49:04 |
| 16 | Q. Okay. Well, walk me through the two types        | 19:49:06 |
| 17 | of analyses you just mentioned.                     | 19:49:12 |
| 18 | MR. BLUME: Objection to scope, but he can           | 19:49:18 |
| 19 | in his personal capacity.                           | 19:49:21 |
| 20 | BY MR. LOESER:                                      | 19:49:23 |
| 21 | Q. Well, let me clarify.                            | 19:49:23 |
| 22 | Your answer was: "I've seen some analysis           | 19:49:25 |
| 23 | of the impact of the Platform changes that were     | 19:49:26 |
| 24 | proposed."  | 19:49:29 |
| 25 | So what's the analysis that you've seen of          | 19:49:30 |

|    |   |          |
|----|---|----------|
| 1  | the impact of the Platform changes that were        | 19:49:32 |
| 2  | proposed?   | 19:49:34 |
| 3  | A. So one of the documents I reviewed in            | 19:49:38 |
| 4  | preparation for the testimony today seems to --     | 19:49:40 |
| 5  | seems to make an assessment of the various changes  | 19:49:45 |
| 6  | that were proposed to be launched and estimates the | 19:49:48 |
| 7  | impact that might have on Facebook's revenues from  | 19:49:53 |
| 8  | developers.   | 19:49:57 |
| 9  | So I recall reviewing a document of that            | 19:50:00 |
| 10 | form.   | 19:50:02 |
| 11 | Q. And can you tell me more about that              | 19:50:03 |
| 12 | document; who created it and when it was created?   | 19:50:05 |
| 13 | A. I don't know who created it or when it was       | 19:50:10 |
| 14 | created, but I do know it was -- my understanding   | 19:50:12 |
| 15 | is it was previously produced in -- in this         | 19:50:15 |
| 16 | litigation. So it should be available to you.       | 19:50:20 |
| 17 | Q. Okay. We'll follow up with Mr. Blume and         | 19:50:28 |
| 18 | try and pin down that document.                     | 19:50:33 |
| 19 | And the second thing you said was an                | 19:50:35 |
| 20 | assessment of the various changes that were         | 19:50:39 |
| 21 | proposed and estimates of the impact they might     | 19:50:46 |
| 22 | have on Facebook's revenue from developers.         | 19:50:48 |
| 23 | So what was that analysis?                          | 19:50:51 |
| 24 | A. So I think that's the thing I've just --         | 19:50:52 |
| 25 | that's the thing I've just talked about.            | 19:50:54 |

|    |   |          |
|----|---|----------|
| 1  | Q. Okay. Was there -- I thought you                 | 19:50:56 |
| 2  | mentioned two different assessments that you saw.   | 19:50:58 |
| 3  | A. So that -- that document, I -- I saw in          | 19:51:03 |
| 4  | preparation for this case, this testimony.          | 19:51:06 |
| 5  | The other thing I recall mentioning is in           | 19:51:10 |
| 6  | my personal capacity, I recall there being analysis | 19:51:16 |
| 7  | done of the -- the revenue that Facebook games      | 19:51:20 |
| 8  | provided to the Facebook company.                   | 19:51:28 |
| 9  | But I don't recall a specific document on           | 19:51:32 |
| 10 | that, and I have not reviewed a document of that    | 19:51:36 |
| 11 | form in reference -- in preparation for this        | 19:51:38 |
| 12 | testimony.  | 19:51:41 |
| 13 | Q. And this may be covered by what you said         | 19:51:45 |
| 14 | before, but has Facebook ever analyzed the          | 19:51:47 |
| 15 | financial or other business benefits Facebook       | 19:51:49 |
| 16 | obtained by allowing third-party access to Facebook | 19:51:52 |
| 17 | user friends data in particular?                    | 19:51:56 |
| 18 | MR. BLUME: Objection to scope.                      | 19:52:00 |
| 19 | THE WITNESS: I don't recall seeing any              | 19:52:03 |
| 20 | analysis that was specifically limited to friends   | 19:52:07 |
| 21 | data, no.   | 19:52:12 |
| 22 | BY MR. LOESER:                                      | 19:52:14 |
| 23 | Q. And what about analysis that was limited         | 19:52:16 |
| 24 | to deprecated permissions more broadly?             | 19:52:19 |
| 25 | A. I have not seen analysis related to              | 19:52:24 |

1 deprecated permissions specifically, no. 19:52:27

2 Q. And has Facebook ever analyzed the 19:52:35

3 financial or other business impact of continuing to 19:52:37

4 allow certain apps and partners to have access to 19:52:40

5 friend-sharing after publicly deprecating 19:52:46

6 friend-sharing permissions? 19:52:49

7 A. So here we need to be specific when we 19:52:51

8 talk about friend-sharing permissions versus your 19:52:54

9 broader definition of friends data. 19:52:57

10 No, I -- I have not seen and am not aware 19:53:00

11 of any analysis that was done relating to 19:53:04

12 extensions allowing apps to continue to have 19:53:10

13 access -- some apps to continue to have access to 19:53:14

14 the friend permissions after they were more 19:53:17

15 publicly deprecated. 19:53:22

16 Q. And if the question is not friends 19:53:24

17 permissions specifically, but deprecated 19:53:27

18 permissions, does that change your answer? 19:53:30

19 A. I am not aware of any analysis that was 19:53:33

20 done to understand the impact of deprecated 19:53:36

21 permissions in particular. 19:53:40

22 As I testified previously, I -- sorry. 19:53:44

23 Q. Go ahead. I'm sorry. 19:53:46

24 A. As I testified previously, I have seen 19:53:50

25 analysis of the impact of the changes in general, 19:53:53

1 but not specifically I recall seeing anything 19:53:59  
2 related to just the deprecation of permissions. 19:54:03  
3 Q. And did Facebook evaluate the loss of 19:54:08  
4 revenue that could occur if a Facebook partner or 19:54:13  
5 partners stopped doing business with Facebook 19:54:17  
6 because Facebook deprecated permissions that the 19:54:20  
7 partner used? 19:54:23  
8 A. I don't recall seeing any analysis of 19:54:29  
9 the -- on an app-specific basis or a 19:54:35  
10 partner-specific basis. 19:54:40  
11 It's possible that people that worked with 19:54:43  
12 that partner might assert a potential loss of 19:54:45  
13 revenue, but I don't recall any, you know, formal 19:54:52  
14 analysis being done of -- of the financial impact 19:54:55  
15 of deprecating something. 19:54:58  
16 Q. And you say you don't recall, but I want 19:55:01  
17 to make sure I understand what you're saying. 19:55:04  
18 Did Facebook do that analysis, do you 19:55:06  
19 know? 19:55:10  
20 A. I do not know, and I have not seen any 19:55:11  
21 evidence in preparation for this that they did. 19:55:13  
22 Q. And if you were to find -- to search for 19:55:16  
23 the answer to that question, who would you ask? 19:55:19  
24 A. I would ask Ime, probably, who was 19:55:26  
25 involved in -- who led the Partnerships team around 19:55:35

1       this time -- sorry, let me be clearer about around       19:55:39  
2       this time.       19:55:42

3               In the period 2013 to 2018, I believe, he       19:55:45  
4       may be aware of whether or not such analysis was       19:55:51  
5       done.       19:55:53

6               Q.   So -- sorry, I have to reach for a       19:56:02  
7       document.       19:56:05

8               Going back to the notice, on Topic 6, you       19:56:06  
9       have -- the last part of that notice calls for       19:56:08  
10       testimony about the revenue impact and net profits       19:56:15  
11       for Facebook relating to friend-sharing throughout       19:56:19  
12       the class period.   Correct?       19:56:21

13              A.   I'll wait to see till it comes on the       19:56:26  
14       screen.       19:56:29

15              Q.   Sure.   And so I am going to ask you a       19:56:30  
16       question -- yeah, I'm going to ask you a question       19:56:36  
17       based on the notice, and you can tell me what       19:56:38  
18       Facebook's answer is.       19:56:40

19              But what is the revenue impact and net       19:56:41  
20       profits for Facebook related to friend-sharing       19:56:44  
21       before Facebook publicly deprecated friend-sharing       19:56:46  
22       APIs?       19:56:49

23              A.   My understanding is that Facebook did       19:56:53  
24       not -- has not done analysis as to the revenue       19:56:56  
25       impact and net profits related to friend-sharing.       19:57:01

1 Q. And what is the revenue impact and net 19:57:07  
2 profits for Facebook related to friend-sharing 19:57:09  
3 after publicly deprecating friend-sharing APIs but 19:57:16  
4 continuing to allow friend-sharing for certain apps 19:57:19  
5 and partners? 19:57:21

6 A. In preparation for this -- this testimony, 19:57:24  
7 I attempted to see whether or not any such analysis 19:57:28  
8 has been done. 19:57:33

9 My understanding is that no analysis was 19:57:34  
10 done. I am not aware of any analysis having been 19:57:36  
11 done about the revenue impact to net profits 19:57:40  
12 relating to friend-sharing before or after the 19:57:44  
13 deprecation period. 19:57:47

14 Q. And who -- what did you do to educate 19:57:48  
15 yourself on that question? 19:57:52

16 A. I spoke to Ime, and I reviewed the 19:57:56  
17 document -- several documents provided to me in 19:58:03  
18 this case. 19:58:05

19 Q. So I'm about to move on to Topic 7, and 19:58:27  
20 we've been going for about an hour, so it's 19:58:30  
21 probably a good time to take a break. We also have 19:58:33  
22 your notes, and I just need to quickly look at them 19:58:36  
23 and see if I have any other questions about Topic 6 19:58:38  
24 regarding your notes. 19:58:39

25 If you don't want to take a break, I can 19:58:42



|    |  |          |
|----|--|----------|
| 1  | plow ahead, but it's been an hour, and if you want | 19:58:42 |
| 2  | to take a break, that's fine too.                  | 19:58:42 |
| 3  | A. Yeah, let's just take five minutes. That        | 19:58:44 |
| 4  | would be good. I'll just stretch a bit; make sure  | 19:58:48 |
| 5  | I'm fresh.   | 19:58:51 |
| 6  | THE VIDEO OPERATOR: We're off the record           | 19:58:52 |
| 7  | at 7:58 P.M.                                       | 19:58:53 |
| 8  | (Recess from 7:58 P.M. to 8:12 P.M.)               | 19:58:55 |
| 9  | THE VIDEO OPERATOR: We're back on the              | 20:12:47 |
| 10 | record. It's 8:12 P.M.                             | 20:12:48 |
| 11 | MR. LOESER: Mr. Cross, we're going to              | 20:12:56 |
| 12 | mark as an exhibit the notes that -- that you      | 20:12:57 |
| 13 | provided to your counsel who then provided them to | 20:13:01 |
| 14 | us.  | 20:13:03 |
| 15 | And if we have time today, we might come           | 20:13:14 |
| 16 | back and ask a few questions about them, but for   | 20:13:17 |
| 17 | now, I just wanted to mark them as an exhibit. So  | 20:13:19 |
| 18 | we can just put them up, introduce them, and move  | 20:13:22 |
| 19 | on.  | 20:13:25 |
| 20 | (Deposition Exhibit 335 was marked for             | 20:13:25 |
| 21 | identification.)                                   | 20:13:29 |
| 22 | BY MR. LOESER:                                     | 20:13:30 |
| 23 | Q. I do have, actually, one -- we don't need       | 20:13:31 |
| 24 | to put the exhibit back up, but I had noticed in   | 20:13:33 |
| 25 | your notes when I asked you earlier who had        | 20:13:35 |

1 developed friend-sharing, you couldn't recall, but 20:13:38  
2 your notes indicate it was Luke Shepherd, 20:13:40  
3 Ari Steinberg, and Alex Himmel. Is that correct? 20:13:43  
4 A. Those are three names of people that I 20:13:49  
5 believe to have been involved in the early 20:13:51  
6 development of the Facebook Developer Platform 20:13:53  
7 which included sharing friends data as part of the 20:13:55  
8 model. 20:14:02  
9 Q. And when you say "early development," 20:14:02  
10 what's the time period that you're referring to? 20:14:03  
11 A. My understanding is that Ari Steinberg was 20:14:11  
12 involved in the 2007/2008 time frame, although I 20:14:14  
13 don't have the specifics. 20:14:19  
14 Luke Shepherd was involved in the Platform 20:14:21  
15 when I joined in September 2010. I'm not sure when 20:14:24  
16 his tenure in that space began or ended. 20:14:29  
17 And Alex Himmel is another person that I 20:14:36  
18 know was involved in the Facebook Developer 20:14:39  
19 Platform. 20:14:40  
20 Whether or not these folks were 20:14:42  
21 specifically involved in the original design of the 20:14:44  
22 platform, which included friend-sharing, it's hard 20:14:49  
23 for me to know specifically. 20:14:53  
24 Q. Okay. Thank you. 20:14:57  
25 Let's go back to the notice. We're going 20:14:59

1 to move on to Topic 7. 20:15:00

2 It's a little longer, so I won't read the 20:15:08

3 whole thing into the record, but I gather you have 20:15:10

4 read all of Topic 7 and you are prepared to testify 20:15:12

5 about this topic. 20:15:19

6 And you've described what you did to 20:15:34

7 prepare for Topic 6. 20:15:36

8 When you prepared for Topic 6, were you 20:15:38

9 also at the same time preparing for Topic 7? 20:15:40

10 A. That's correct. I was preparing for the 20:15:44

11 two in parallel. 20:15:45

12 Q. And is there anybody that you talked to at 20:15:49

13 Facebook to get information about Topic 7 that is 20:15:51

14 different than the folks that you talked to about 20:15:54

15 Topic 6? 20:15:57

16 A. No. The set of people I talked to, I 20:15:59

17 talked to about all of the matters I was preparing 20:16:03

18 to testify on. 20:16:05

19 Q. And is there any component of Topic 7 that 20:16:14

20 you only have knowledge of based upon the 20:16:17

21 preparations that you did for this deposition? 20:16:19

22 A. Yes. I think 7-a, each whitelisted 20:16:24

23 entity; b, only -- so b, I have some personal 20:16:33

24 experience there; c, I also have some personal 20:16:46

25 experience. 20:16:56

1 D -- could you scroll d onto the screen, 20:17:02  
2 please? There you go. That was easy. 20:17:05  
3 So I think I have some personal experience 20:17:08  
4 in all, but with 7-a, primarily I'm relying on the 20:17:11  
5 forensic work that was done after my involvement in 20:17:19  
6 the Facebook Developer Platform to answer those 20:17:25  
7 questions. 20:17:29  
8 Q. And based on your preparation with regard 20:17:31  
9 to Topic 7, do you believe you are reasonably 20:17:33  
10 educated to testify on these matters? 20:17:37  
11 A. I believe I am reasonably educated to 20:17:39  
12 testify. I've done as much as I could to prepare. 20:17:41  
13 Q. And last night, your counsel informed us 20:17:53  
14 that you are not prepared to testify about call 20:17:54  
15 logs, APIs, or permissions granted to any 20:17:57  
16 particular entity. 20:18:00  
17 And is that -- is that your understanding? 20:18:03  
18 A. Yeah. We -- I want to make sure that I -- 20:18:12  
19 in answering those questions, I want to make sure I 20:18:15  
20 have done as much preparation as possible, and I 20:18:17  
21 think a couple more -- a bit more time to make sure 20:18:25  
22 I can speak to those topics would be valuable. 20:18:28  
23 Q. Okay. And over the course of your 20:18:33  
24 employment at Facebook, did you develop any 20:18:34  
25 personal knowledge of call logs, APIs, or 20:18:36

1 permissions granted to any particular entity? 20:18:40

2 A. I developed -- I was in -- I had access to 20:18:44

3 and would have used some of the tools that would 20:18:48

4 help analyze call logs and Platform API usage and, 20:18:56

5 in the course of doing that, would have seen 20:19:03

6 information to do with particular apps. 20:19:05

7 But that's a long time ago, and I wouldn't 20:19:10

8 remember the specifics, and I don't know what in 20:19:13

9 general Facebook would have access to today, many 20:19:15

10 years after -- many years after my time directly 20:19:18

11 involved in this stuff. 20:19:23

12 Q. Okay. Thank you. 20:19:24

13 Mr. Cross, please explain what it means to 20:19:27

14 "whitelist" an app or a partner in the context of 20:19:29

15 access to APIs. 20:19:33

16 A. The -- can you be specific? 20:19:47

17 Which APIs are we referring to here? 20:19:49

18 Q. Just generally, back to making sure we 20:19:52

19 have the terminology down and I'm using the right 20:19:54

20 words to talk about what we're discussing, there's, 20:19:57

21 obviously, a lot of documents that talk about, 20:19:59

22 refer to, and use the term "whitelist," and I 20:20:01

23 gather that's a term that can be applied in a 20:20:05

24 variety of contexts. 20:20:07

25 But when it's connected to granting access 20:20:08

1 to particular APIs or -- I'm continually getting 20:20:11  
2 this wrong -- permissions, does it have a 20:20:17  
3 particular meaning? 20:20:20

4 A. In the context -- we referred to in the 20:20:21  
5 context of the Facebook Developer Platform again? 20:20:23

6 Q. Yeah. Yes. 20:20:26

7 A. So in that context, I understand 20:20:32  
8 "whitelisting" to refer to where a given 20:20:33  
9 application is added to a list of applications 20:20:38  
10 that -- whose behavior or whose -- the behavior of 20:20:45  
11 the API, and the Facebook Developer Platform is 20:20:50  
12 modified in some way for those applications. 20:20:53

13 Q. And consistent with that definition, when 20:21:05  
14 did Facebook first start whitelisting any app or 20:21:07  
15 partner? 20:21:10

16 A. So the -- given that the concept of 20:21:14  
17 whitelisting in general applies to making -- you 20:21:16  
18 know, modifying the changes to the -- modifying the 20:21:21  
19 behavior of the Facebook Developer Platform, then 20:21:24  
20 whitelisting in some form has been used 20:21:27  
21 consistently throughout the development of the 20:21:31  
22 Facebook Developer Platform in some way. 20:21:35

23 Q. And, again, I want to make sure I have the 20:21:46  
24 technology correct, but what does it mean to 20:21:48  
25 whitelist friend-sharing APIs for an app? 20:21:52

1                   Or let me put it this way: What does it                   20:21:55  
2                   mean to whitelist an app's ability to collect                   20:21:58  
3                   friend-sharing data?                   20:22:00  
4                   A. So this would refer to what we mean by                   20:22:06  
5                   "friend-sharing data." In this context, one way                   20:22:11  
6                   that that could have manifested is where an app has                   20:22:20  
7                   access to APIs and permissions which were not                   20:22:28  
8                   generally available to other Facebook developers                   20:22:33  
9                   and applications at the time.                   20:22:38  
10                  Q. Okay. And I've seen in Facebook's                   20:22:42  
11                  documents "whitelisting" used in reference to apps,                   20:22:45  
12                  but I've also seen it used in reference to                   20:22:50  
13                  partners.                   20:22:52  
14                  Is there a different definition that                   20:22:53  
15                  Facebook uses when thinking of whitelisting                   20:22:55  
16                  partners in the context of the Platform?                   20:22:59  
17                  A. So back to my original definition of                   20:23:04  
18                  "application" being a very specific entity in the                   20:23:06  
19                  Facebook Developer Platform ecosystem, a partner                   20:23:08  
20                  would refer to an entity, a -- for example, a                   20:23:14  
21                  company. And that company may have several, one or                   20:23:17  
22                  more, Facebook applications, and those applications                   20:23:24  
23                  may or may not have been whitelisted for                   20:23:32  
24                  alternative API behavior.                   20:23:35  
25                  So in that context, you know, when a -- a                   20:23:38

1 partner is -- if you see the phrase "partner has 20:23:41  
2 been whitelisted," what specifically happens in 20:23:45  
3 the -- in the -- in the code base is that the 20:23:48  
4 applications owned -- the Facebook applications 20:23:54  
5 owned and maintained by that partner, the app IDs 20:23:59  
6 have been granted some modification to the standard 20:24:05  
7 API behavior. 20:24:09

8 Q. And through those modifications, those 20:24:12  
9 partners, vis-à-vis their apps or, if it's a 20:24:15  
10 developer, the developer vis-à-vis its app would 20:24:19  
11 gain access to friend data that would not otherwise 20:24:23  
12 have been available to that app or partner. 20:24:28

13 Is that a fair description? 20:24:33

14 A. Well, it's a wide range of whitelists and 20:24:35  
15 capabilities that were in the system. Many of 20:24:39  
16 them, in fact, my understanding is the vast 20:24:44  
17 majority of them were not related to friend data at 20:24:47  
18 all. 20:24:49

19 Q. Okay. And, in fact, there's plenty of 20:24:54  
20 discussion in Facebook documents about the other 20:24:56  
21 permissions that were deprecated with Version 2 20:24:58  
22 that also were whitelisted for certain apps and 20:25:03  
23 partners. Right? 20:25:07

24 A. There's -- when you say "whitelisted," 20:25:09  
25 what time period are you referring to here? 20:25:13



1                   It's very specific, given that                   20:25:15  
2           whitelisting as a concept is something that's very           20:25:17  
3           common in the industry and will have been used in           20:25:21  
4           this context for many years.                   20:25:24

5           Q.   Sure.   Is the use of whitelisting                   20:25:26  
6           vis-à-vis the Facebook Platform, did that mean           20:25:30  
7           something different at different times in                   20:25:35  
8           Facebook's lifespan?                   20:25:38

9           A.   Well, the general definition of                   20:25:42  
10          whitelisting in the context of the Facebook           20:25:44  
11          Platform is that by being on a whitelist, you get           20:25:46  
12          some kind of different behavior -- the Platform           20:25:50  
13          behaves in some kind of different way to people not           20:25:54  
14          on the whitelist.                   20:25:57

15                Exactly what that behavior is depends on           20:25:59  
16                specifically what the capability is.                   20:26:02

17                And so, again, over time, the high -- at           20:26:06  
18                the conceptual level, the concept of whitelisting           20:26:11  
19                hasn't changed, but exactly which whitelists           20:26:15  
20                existed, for what purpose they were used, and who           20:26:18  
21                had access to them at any given time will have           20:26:21  
22                changed considerably over time.                   20:26:23

23           Q.   Okay.   And so we've talked about                   20:26:26  
24           whitelisting.                   20:26:28

25                Let's talk about private APIs for a                   20:26:29

1 minute. 20:26:32

2 Does Facebook conceive of private APIs as 20:26:32

3 something different than whitelisting? 20:26:36

4 A. I think we discussed the definition of 20:26:42

5 private APIs earlier in the -- in the testimony. 20:26:44

6 So that would be, in my -- in my determination, 20:26:46

7 APIs or behaviors which were not available -- in 20:26:55

8 this case, "private APIs" would typically refer to 20:27:01

9 APIs or permissions that were not generally 20:27:04

10 available. 20:27:06

11 Whitelisting is the concept of who has 20:27:07

12 access to the private APIs, but there is also 20:27:10

13 whitelisting which is nothing to do with private 20:27:15

14 APIs or permissions in any way. 20:27:19

15 Q. And your answer probably helps to explain 20:27:22

16 why there is some confusion in the documents about 20:27:25

17 this because these terms do seem to get -- they 20:27:27

18 seem overlapping but also different; so I want to 20:27:30

19 make sure I understand. 20:27:33

20 The only way an app that is created by a 20:27:34

21 developer that is not a partner with Facebook can 20:27:40

22 get access to publicly deprecated APIs is through a 20:27:43

23 whitelist. Right? 20:27:47

24 A. That would depend on the precise time 20:27:50

25 we're talking about. It would also depend on when 20:27:53

|    |   |          |
|----|---|----------|
| 1  | the application was created.                        | 20:27:56 |
| 2  | Q. Okay. Well, let's talk about 2014 to the         | 20:27:59 |
| 3  | present.  | 20:28:02 |
| 4  | Is there a way other than a whitelist for           | 20:28:04 |
| 5  | a developer or an app that is not considered a      | 20:28:07 |
| 6  | partner of Facebook's to get access to publicly     | 20:28:10 |
| 7  | deprecated permissions?                             | 20:28:13 |
| 8  | A. Via permission being publicly                    | 20:28:21 |
| 9  | deprecated -- let's take an example, I think, is    | 20:28:23 |
| 10 | the easiest way to answer that question.            | 20:28:26 |
| 11 | So the -- where permissions which were              | 20:28:28 |
| 12 | publicly available to API Version 1 which were not  | 20:28:33 |
| 13 | publicly available in API Version 2, for            | 20:28:37 |
| 14 | applications that originally could call API         | 20:28:41 |
| 15 | Version 1 that later could only call API Version 2, | 20:28:45 |
| 16 | when that public deprecation was complete, the only | 20:28:52 |
| 17 | way to access those publicly deprecated permissions | 20:28:56 |
| 18 | would have been to be on a whitelist; one or more   | 20:29:01 |
| 19 | whitelists.   | 20:29:06 |
| 20 | Q. And so developers -- well, let's start           | 20:29:09 |
| 21 | with apps.  | 20:29:12 |
| 22 | Apps could be on that whitelist, right?             | 20:29:13 |
| 23 | A. In the context of the Facebook Developer         | 20:29:17 |
| 24 | Platform and specifically referring to app-based    | 20:29:18 |
| 25 | whitelisting -- there are other forms of            | 20:29:21 |

1 whitelisting available -- then, yes, the 20:29:23

2 application ID would have been on a whitelist. 20:29:28

3 Q. And partners could be on a whitelist too. 20:29:33

4 But in order for that to be functional, they had to 20:29:39

5 have a private API? 20:29:41

6 A. Sorry. I think we're getting our concepts 20:29:44

7 mixed up here, and it's getting hard to answer -- 20:29:47

8 answer the questions. 20:29:50

9 So how do you want to proceed? I feel 20:29:52

10 like we may need to reclarify some of these 20:29:56

11 definitions because you're mixing them up in your 20:29:59

12 questions. 20:30:02

13 Q. All I'm trying to do is figure out what 20:30:03

14 the distinction is between a whitelist and a 20:30:05

15 private API, and specifically in the context of 20:30:08

16 giving a third-party access to deprecated 20:30:10

17 permissions after 2014. 20:30:12

18 So is there a difference between, in that 20:30:14

19 context, a whitelist and a private API? 20:30:16

20 A. Yes. As I previously testified, a 20:30:20

21 whitelist is a -- a mechanism by which -- in the 20:30:22

22 context of the Facebook Platform, an app ID is 20:30:26

23 specified in some way as having alternative -- you 20:30:30

24 know, having a different API behavior than happens 20:30:33

25 that are not on the whit list. 20:30:37

1 Private APIs are -- some of the things 20:30:39

2 that you could be whitelisted for, but there are 20:30:43

3 other things that you could also be whitelisted 20:30:45

4 for. For example, rate limit behavior. Different 20:30:48

5 rate limit behavior. Right? 20:30:51

6 So whitelisting is the concept by which an 20:30:53

7 application ID, in the -- sorry. 20:30:56

8 Whitelisting is the concept by which an 20:30:59

9 application ID in the context of the Facebook 20:31:02

10 Platform is offered some deeper, nonstandard, or 20:31:03

11 nonpublic behavior, different behavior. 20:31:09

12 And then there are some whitelists, 20:31:11

13 specifically called "capabilities," that would 20:31:16

14 determine exactly what behavior those applications 20:31:18

15 had that was different to the standard. 20:31:23

16 Q. Okay. And are private APIs established 20:31:28

17 through a contract between Facebook and a Facebook 20:31:30

18 partner? 20:31:32

19 A. Not always. Not always. There -- again, 20:31:38

20 there are a number of private APIs and a number of 20:31:42

21 different private behaviors -- different behaviors. 20:31:45

22 Some of those would be governed -- granted under a 20:31:49

23 contract; others would not. 20:31:53

24 For example, rate-limiting; you wouldn't 20:31:56

25 necessarily expect a developer to agree to a 20:31:58

1 contract to be on the rate-limit whitelist. 20:32:01

2 Q. What is a "rate-limit whitelist"? 20:32:06

3 A. So "rate limits" refers to the number of 20:32:09

4 API calls that an application can make within a 20:32:14

5 given time period in a number of different, 20:32:17

6 complicated ways. 20:32:20

7 There's the standard set of how the rate 20:32:22

8 limits work. 20:32:26

9 And then, for some applications that 20:32:27

10 needed to operate differently, then there was a 20:32:32

11 whitelist that allowed those rate limits to be 20:32:35

12 changed for certain applications. 20:32:39

13 And so, again, that's an example of a 20:32:43

14 whitelist, which is a concept implemented by a 20:32:45

15 capability, which is a specific thing that modified 20:32:49

16 the behavior of the API for the people on the 20:32:53

17 whitelist that was not in any way related to 20:32:56

18 friends data. 20:32:59

19 Q. And so one of the ways private APIs were 20:33:01

20 used at Facebook was to enable certain Facebook 20:33:05

21 partners to continue to have access to friends 20:33:08

22 data. Right? 20:33:11

23 A. Can you be specific as to what time period 20:33:14

24 you're talking about here? Because this -- the 20:33:16

25 time periods here matter greatly in the specificity 20:33:18

1 of my answers. 20:33:22

2 Q. So when did private APIs first appear at 20:33:24

3 Facebook? 20:33:29

4 A. The -- the concept of private API, I -- 20:33:33

5 you're -- I'm referring to any API or permission 20:33:37

6 that was not generally available. 20:33:41

7 When the Facebook Developer Platform was 20:33:47

8 launched, it was launched with launch partners. 20:33:49

9 Actually, a better example is, let's say, 20:33:52

10 Facebook Connect in 2008. There were a number 20:33:55

11 of -- Facebook Connect as a product was -- before 20:33:59

12 it was launched -- not publicly available; and yet 20:34:05

13 on launch day, there were a number of partners that 20:34:08

14 had built integrations with it. 20:34:11

15 Before the launch, you could consider 20:34:14

16 Facebook Connect a private API; and, therefore, 20:34:16

17 access to it was governed by a whitelist. 20:34:20

18 After the launch, Facebook Connect was 20:34:23

19 generally available to all developers, and so you 20:34:25

20 didn't need to be on a whitelist to access it. 20:34:28

21 So whitelists are an industry-standard way 20:34:31

22 of modifying API behavior in certain circumstances, 20:34:34

23 launching new products, and offering them to your 20:34:39

24 launch partners in advance of them being generally 20:34:43

25 available. 20:34:45

|    |   |          |
|----|---|----------|
| 1  | And, in the context of the Facebook                 | 20:34:48 |
| 2  | Platform in this litigation, it's also possible to  | 20:34:50 |
| 3  | use a whitelist to grant some developers and        | 20:34:57 |
| 4  | partners access to permissions that had been        | 20:35:01 |
| 5  | removed from other developers.                      | 20:35:04 |
| 6  | Q. Okay. And when was the first time that           | 20:35:09 |
| 7  | partners obtained access to publicly deprecated     | 20:35:11 |
| 8  | friend permissions via a private API?               | 20:35:18 |
| 9  | (Rose Ring joined the deposition.)                  | 20:35:21 |
| 10 | THE WITNESS: The -- strange noise.                  | 20:35:25 |
| 11 | So, specifically, when it comes to friend           | 20:35:28 |
| 12 | permissions, as a set of things that were           | 20:35:32 |
| 13 | deprecated, then up until beginning April 30, 2015, | 20:35:35 |
| 14 | if your app had been created before April 30, 2014, | 20:35:44 |
| 15 | then you would have access to those permissions.    | 20:35:50 |
| 16 | When the deprecation of API 1 -- the                | 20:35:55 |
| 17 | public deprecation of API V1 began on April 30,     | 20:36:00 |
| 18 | 2015, that's when the -- that's the beginning where | 20:36:03 |
| 19 | an application that would otherwise have lost       | 20:36:07 |
| 20 | access to their friend permissions could have       | 20:36:09 |
| 21 | continued to access them if they were on a          | 20:36:13 |
| 22 | whitelist.  | 20:36:18 |
| 23 | BY MR. LOESER:                                      | 20:36:19 |
| 24 | Q. Through private APIs.                            | 20:36:19 |
| 25 | A. Well, via being on a whitelist.                  | 20:36:22 |



1                   In this case, we're specifically referring                   20:36:25

2                   to friend permissions, which is, I think, what your                   20:36:27

3                   original question was.                   20:36:30

4                   Q. And what is the "Capability" tool at                   20:36:33

5                   Facebook?                   20:36:36

6                   A. The Capability tool is an internal tool                   20:36:39

7                   used at Facebook to manage which application -- to                   20:36:42

8                   manage applications and whitelists.                   20:36:47

9                   (Discussion off the record.)                   20:36:50

10                  MS. RING: I am very sorry. This is                   20:37:12

11                  Rose Ring, and I am counsel for Meta. I'm sorry                   20:37:12

12                  for not announcing myself.                   20:37:16

13                  BY MR. LOESER:                   20:37:26

14                  Q. And, Mr. Cross, you were starting to                   20:37:28

15                  describe the Capability tool, so keep going.                   20:37:31

16                  A. So the Capability tool is an internal tool                   20:37:35

17                  at Facebook Meta that's used to manage which                   20:37:39

18                  applications have access to which capabilities; a                   20:37:44

19                  "capability" being a -- a mechanism for changing                   20:37:51

20                  the -- modifying the behavior of the Facebook                   20:37:58

21                  Developer Platform.                   20:38:01

22                  So with an application having access to a                   20:38:02

23                  capability, you would say it had been                   20:38:05

24                  "whitelisted."                   20:38:07

25                  Q. And for what period of time has the                   20:38:09

1 Capability tool been in existence? 20:38:13

2 A. My understanding is it was built in around 20:38:16

3 2011 and replaced a previous tool that did a 20:38:20

4 similar job. 20:38:30

5 But the development, as I understand it, 20:38:31

6 began in around 2011. 20:38:33

7 Q. And do you know what the previous tool was 20:38:36

8 called? 20:38:38

9 [REDACTED] [REDACTED]

10 [REDACTED] [REDACTED]

11 Q. Okay. It seems like it had bold 20:38:47

12 ambitions. 20:38:49

13 [REDACTED] [REDACTED]

14 and replaced by the capability tool? 20:39:01

15 A. My understanding is that the Capabilities 20:39:04

16 [REDACTED] [REDACTED]

17 apps and which whitelists they had access -- which 20:39:12

18 capabilities they had access to. 20:39:17

19 Q. And do you know why it was called 20:39:19

20 [REDACTED] [REDACTED]

21 A. I do not. 20:39:23

22 Q. And what are "Gatekeepers"? 20:39:26

23 A. So a Gatekeeper is -- or Gatekeepers. 20:39:30

24 Gatekeeper is a tool at Meta which is widely used 20:39:34

25 to gate access to features within the Facebook apps 20:39:38

1 and services, including the Facebook app itself and 20:39:47  
2 a number of other services inside the company. 20:39:56  
3 "Gatekeepers" refers to the set of checks 20:39:59  
4 that exist in code to determine who and what has 20:40:09  
5 access to which features. 20:40:14  
6 I think the best way to explain it is with 20:40:16  
7 an example. 20:40:18  
8 Typically, when Facebook develops a new 20:40:20  
9 feature, the engineers will -- will gate that 20:40:22  
10 feature behind a Gatekeeper. 20:40:29  
11 So let's imagine Facebook Dating. So the 20:40:31  
12 team working on Facebook Dating would be working on 20:40:36  
13 that feature. That feature would be gated by a 20:40:39  
14 gatekeeper or multiple gatekeepers, and then the 20:40:44  
15 Gatekeeper tool would be used to determine who had 20:40:48  
16 access to Facebook Dating as a feature. 20:40:50  
17 And so Gatekeeper is a mechanism by which 20:40:54  
18 Meta typically controls who has access to which 20:41:00  
19 features across many aspects of our business. 20:41:04  
20 Q. So the Capabilities tool is more or less a 20:41:11  
21 tracking device, and the Gatekeeper is more or less 20:41:13  
22 a functional system. 20:41:17  
23 Is that a fair description? 20:41:19  
24 A. I wouldn't characterize them that way. 20:41:20  
25 They both, in some ways, do a similar job. 20:41:22

1           The Gatekeeper tool is widely used at Meta           20:41:26  
2           to manage all kinds of conditional access to           20:41:32  
3           things.           20:41:37

4           The Capabilities tool is specifically just           20:41:38  
5           used for the Facebook Developer Platform and how to           20:41:41  
6           manage which applications have access to which           20:41:47  
7           additional features.           20:41:51

8           Q. Okay. So if you wanted to identify every           20:41:52  
9           single app that had been whitelisted and, because           20:41:54  
10          of that, received deprecated permissions, would all           20:41:59  
11          of your information be in the Capability tool, or           20:42:03  
12          would you also need to look at the Gatekeeper tool?           20:42:06

13          A. My understanding is that most of the           20:42:11  
14          whitelists -- most of the way in which publicly           20:42:16  
15          deprecated permissions were made available to           20:42:23  
16          applications was via the Capabilities tool.           20:42:28

17          There was, as I understand it, some           20:42:32  
18          whitelists managed by Gatekeeper, and an effort was           20:42:36  
19          undertaken to migrate that management from           20:42:40  
20          Gatekeeper to the Capabilities tool for           20:42:42  
21          consistency.           20:42:45

22          Q. And when was that done?           20:42:46

23          A. I don't have the information as to when           20:42:50  
24          that was done.           20:42:52

25          Q. So, today, is the Capability tool the more           20:42:54

1 complete set of information on whitelisted 20:42:58

2 entities? 20:43:01

3 A. When it comes to Facebook Developer 20:43:02

4 Platform and app IDs being whitelisted, my 20:43:04

5 understanding is that the Capabilities tool is the 20:43:09

6 primary and most complete system that tracks which 20:43:11

7 apps have access to which capabilities. 20:43:17

8 Q. And what is "Sitevars"? 20:43:20

9 A. Sitevars is another mechanism that is used 20:43:25

10 at Meta to control and modify the behavior of -- of 20:43:30

11 various products. It has a different set of 20:43:36

12 features the Gatekeeper and the Capabilities tool 20:43:39

13 do not have. 20:43:45

14 Q. And are there entities that have access to 20:43:46

15 publicly deprecated permissions tracked by Sitevars 20:43:48

16 that are not tracked by the Capabilities tool? 20:43:52

17 A. My understanding, but -- from talking to 20:43:56

18 the engineers involved in this is that no, Sitevars 20:43:59

19 would not be a way of determining whether or not an 20:44:06

20 application had access to publicly deprecated 20:44:11

21 permissions. 20:44:14

22 MR. LOESER: Okay. If we could have 20:44:18

23 Tab 9. 20:44:26

24 (Deposition Exhibit 336 was marked for 20:44:26



25 identification.) 20:44:26

1 MR. LOESER: I'm going to mark the next 20:44:41  
2 exhibit. This is Exhibit 336. The Bates number on 20:44:42  
3 this is FB-CA-MDL-00200051. 20:44:53  
4 And you're looking at, Mr. Cross, an email 20:44:59  
5 from you to Zhen Fang, cc to Jackie Chang and 20:45:02  
6 Christopher Blizzard, October 31, 2013, "Subject: 20:45:09  
7 Docs for Private Platform/Capabilities." 20:45:14  
8 Do you see that? 20:45:17  
9 A. I do. 20:45:18  
10 Q. And do you recall writing this email? 20:45:20  
11 A. I do not recall writing it, but I have 20:45:24  
12 seen this document as part of my preparation for my 20:45:28  
13 testimony today. 20:45:31  
14 Q. Okay. And you write: 20:45:32  
15 [REDACTED] [REDACTED]  
16 [REDACTED] [REDACTED]  
17 [REDACTED] [REDACTED]  
18 [REDACTED] [REDACTED]  
19 [REDACTED] [REDACTED]  
20 [REDACTED] [REDACTED]  
21 [REDACTED] [REDACTED]  
22 Q. And do you recall -- or explain for me if 20:45:53  
23 Facebook had a tough time figuring out what all of 20:45:56  
24 the -- what all was supposed to be included on the 20:46:00  
25 Capabilities tool or who all had been whitelisted 20:46:03

|    |   |          |
|----|---|----------|
| 1  | at this time.                                       | 20:46:11 |
| 2  | MR. BLUME: Objection. Compound.                     | 20:46:12 |
| 3  | THE WITNESS: Yeah. Could you separate               | 20:46:13 |
| 4  | the question into two parts because I think the     | 20:46:14 |
| 5  | answer -- the answer may be different depending on  | 20:46:17 |
| 6  | which part I'm answering.                           | 20:46:20 |
| 7  | BY MR. LOESER:                                      | 20:46:22 |
| 8  | Q. Sure. It looked like, based upon your            | 20:46:22 |
| 9  | email here, that tracking the capabilities that     | 20:46:24 |
| 10 | apps had was at this time disorganized and          | 20:46:28 |
| 11 | difficult.  | 20:46:31 |
| 12 | Is that fair?                                       | 20:46:34 |
| 13 | A. What I -- what's being referred to here is       | 20:46:35 |
| 14 | to do with the capabilities themselves and what     | 20:46:39 |
| 15 | their behavior was; what each individual capability | 20:46:45 |
| 16 | did or could do.                                    | 20:46:50 |
| 17 | So that's what this is referring to.                | 20:46:55 |
| 18 | Q. And so you're proposing here creating a          | 20:46:59 |
| 19 | tool that would allow Facebook to better understand | 20:47:02 |
| 20 | and organize the capabilities that the different    | 20:47:04 |
| 21 | apps have. Right?                                   | 20:47:08 |
| 22 | A. No. What I'm referring to here is the --         | 20:47:12 |
| 23 | the idea, or the request, to be able to gate        | 20:47:16 |
| 24 | documents on the Facebook Developer website based   | 20:47:21 |
| 25 | on whether or not the viewer of the website had --  | 20:47:26 |

|    |   |          |
|----|---|----------|
| 1  | was a developer of an app that had a specific       | 20:47:32 |
| 2  | capability.   | 20:47:34 |
| 3  | Q. So what problem were you trying to solve         | 20:47:36 |
| 4  | here?   | 20:47:38 |
| 5  | Or let me ask it another way.                       | 20:47:41 |
| 6  | What problem was Facebook trying to solve           | 20:47:43 |
| 7  | here?   | 20:47:45 |
| 8  | A. What Facebook is trying to solve here is a       | 20:47:46 |
| 9  | way to automatically control whether or not a given | 20:47:49 |
| 10 | developer user -- so an individual person -- had    | 20:47:57 |
| 11 | the ability to see a document on the Facebook       | 20:48:01 |
| 12 | Developer website that was only visible to them if  | 20:48:04 |
| 13 | they were the developer of an application that      | 20:48:08 |
| 14 | had -- was granted a particular capability.         | 20:48:11 |
| 15 | MR. LOESER: Okay. We can go to the next             | 20:48:30 |
| 16 | exhibit, Tab 10.                                    | 20:48:32 |
| 17 | (Deposition Exhibit 337 was marked for              | 20:48:36 |
| 18 | identification.)                                    | 20:48:40 |
| 19 | BY MR. LOESER:                                      | 20:48:53 |
| 20 | Q. So as we're waiting for the document,            | 20:48:53 |
| 21 | Mr. Cross, as we've discussed already today, with   | 20:48:55 |
| 22 | the implementation of Graph API Version 2, Facebook | 20:48:58 |
| 23 | had decided to deprecate a number of permissions,   | 20:49:00 |
| 24 | right, and had come up with a list of the           | 20:49:06 |
| 25 | permissions that would be deprecated.               | 20:49:09 |



|    |   |   |
|----|---|---|
| 1  | Is that an accurate description?  | 20:49:11  |
| 2  | A. As part of API Version 2 launch, Version 2                                     | 20:49:14  |
| 3  | contained -- there were a number of permissions                                   | 20:49:18  |
| 4  | that were not available to API Version 2 in general                               | 20:49:20  |
| 5  | that were available in API Version 1.   | 20:49:24  |
| 6  | Q. And so if you look at Exhibit 337, which                                       | 20:49:30  |
| 7  | is a -- which is a document that is captioned                                     | 20:49:32  |
| 8  |  |  |
| 9  | Do you see that?  | 20:49:49  |
| 10 | A. I do see that.   | 20:49:50  |
| 11 | Q. And this appears to be a document that was                                     | 20:49:50  |
| 12 | describing the changes that would be made to the                                  | 20:49:52  |
| 13 | platform in the transition from Version 1 to                                      | 20:49:58  |
| 14 | Version 2. Right?   | 20:50:01  |
| 15 | A. It seems to talk about those changes, but                                      | 20:50:04  |
| 16 | it's not clear to me when this document was                                       | 20:50:06  |
| 17 | authored or the audience of the document.   | 20:50:09  |
| 18 | Q. Okay. At the very top of the document,   | 20:50:14  |
| 19 | you can see that it was authored -- it's a little                                 | 20:50:15  |
| 20 | faint, but it's June 5, 2014.   | 20:50:18  |
| 21 | Do you see that?  | 20:50:22  |
| 22 | A. I see that there, but it's not clear to me                                     | 20:50:24  |
| 23 | that this is when the document was authored. That                                 | 20:50:26  |
| 24 | may have been when the document was captured. It's                                | 20:50:31  |
| 25 | hard to read from this exactly what this -- where                                 | 20:50:35  |

1       this document was posted. It seems to contain --       20:50:40

2             Q. Okay. And I'll just --       20:50:48

3             A. Yeah, it -- I'm not clear -- I'm not clear       20:50:50

4       when this document was authored or whether or not       20:50:53

5       that date -- what that date at the top right       20:50:55

6       pertains to.       20:50:58

7             MR. LOESER: Okay. And just for the       20:50:59

8       record, I'll note that the metadata of this       20:51:00

9       document indicates that it was created June 5,       20:51:03

10       2014. The author is Gillian Dunne, and the       20:51:06

11       custodian for the document was Bill Fusz.       20:51:12

12             But I'm just noting that for the record,       20:51:15

13       and perhaps it provides you some context.       20:51:18

14             But all I want to do with this document is       20:51:20

15       look at -- if you go down to the bottom of the       20:51:22

16       first page, there is a statement: "Permissions no       20:51:24

17       longer available in V2.0."       20:51:29

18             Q. And do you see there's a list that begins       20:51:33

19       there and goes onto the next page?       20:51:35

20             A. I do see that.       20:51:37

21             Q. And included in that there's the category       20:51:40

22       that says: "All friends\_\* permissions have been       20:51:44

23       removed," and then it lists all of them?       20:51:48

24             A. I see a list of permissions, yes.       20:51:51

25             Q. And above that, there's also a number of       20:51:54

1 other permissions. 20:51:58

2 Now, does this list of deprecated 20:52:02

3 permissions include all permissions that provided 20:52:05

4 for the sharing of friend data? 20:52:09

5 A. Can you -- in this context, can you help 20:52:19

6 me understand what you mean by "friends data"? 20:52:21

7 Q. Yeah. We earlier talked quite a bit about 20:52:25

8 different APIs that didn't have the word "friends" 20:52:27

9 in the permissions but, based on how they worked, 20:52:33

10 resulted in an app's ability to access information 20:52:35

11 about a user's friends. 20:52:39

12 Do you recall that testimony? 20:52:41

13 A. Yes, I recall that testimony. 20:52:42

14 Q. And so looking at this list here, does it 20:52:45

15 appear to you that this removes -- indicates that 20:52:47

16 the deprecated permissions will cover all of the 20:52:54

17 different permissions that existed at the time that 20:52:57

18 allowed access to friends data? 20:53:00

19 A. No. This looks relatively complete in 20:53:06

20 terms of the -- the friends permissions that 20:53:10

21 allowed an app access to a friend's data in terms 20:53:15

22 of the specific things listed here. 20:53:22

23 Your definition earlier was -- included 20:53:25

24 things like a friend's comments on my photos. 20:53:32

25 Through that definition, then other 20:53:40

1 permissions, including, for example, user\_photos, 20:53:42  
 2 would have also emitted some friends' data; 20:53:46  
 3 specifically, the comments that they had made on my 20:53:55  
 4 photos. 20:53:57

5 So that is not a set of things that was 20:53:58  
 6 removed in API Version 2. 20:54:01

7 What was removed is this list of 20:54:03  
 8 permissions which, for example, would have 20:54:05  
 9 allowed -- the friends\_photos permission would have 20:54:08  
 10 allowed an app to access the photos of an app-using 20:54:12  
 11 user's friends. 20:54:17

12 Q. And at the time that Facebook was 20:54:19  
 13 analyzing and identifying all of the permissions 20:54:20  
 14 that provided access to friends data, did Facebook 20:54:25  
 15 make a list that included every single one of those 20:54:30  
 16 permissions so that it could identify whether there 20:54:33  
 17 was any friend-sharing that would be still 20:54:37  
 18 publicly -- still be a publicly available API? 20:54:41

19 A. No. The focus of the deprecations 20:54:48  
 20 announced in Version 2 was the removal of the 20:54:50  
 21 friend permissions and the other permissions that 20:54:53  
 22 are represented here. 20:54:56

23 Q. Okay. And when you say "friend 20:54:59  
 24 permissions," you mean the ones that had the word 20:55:00  
 25 "friends" in them? 20:55:03

1           A. When I said "friend permission," that           20:55:05  
2           specifically refers to the permissions that have           20:55:07  
3           the word "friend" in them.           20:55:10

4           And by "other permissions," I'm referring           20:55:12  
5           to the ones listed above; for example -- I'm trying           20:55:14  
6           to give an example -- like, manage\_friend lists,           20:55:27  
7           for example.           20:55:31

8           Q. Now, if we move up this document back to           20:55:33  
9           the first page, there's a heading: "New features           20:55:36  
10          available in Version 2.0."           20:55:40

11          Do you see that?           20:55:42

12          A. I do.           20:55:43

13          Q. And there is a list of APIs that we've           20:55:43  
14          discussed: "Taggable Friends, Invitable Friends,           20:55:47  
15          Social Context."           20:55:51

16          And there's one, "Business Mapping API,"           20:55:51  
17          which we haven't discussed, and another one that           20:55:53  
18          looks like it says "Tagged Places API."           20:55:56

19          Do you see that?           20:55:59

20          A. I do see that.           20:55:59

21          Q. And for Taggable Friends, Invitable           20:56:01  
22          Friends, Social Context, those are all permissions           20:56:06  
23          that it appears did not exist prior to Version 2.0           20:56:09  
24          but were going to be introduced at this time.           20:56:13

25          Is that a fair read?           20:56:16

1           A. These are specifically -- these are APIs           20:56:18  
2           that were introduced in Version 2 that were not           20:56:20  
3           previously available.           20:56:26

4           These are not permissions; these are APIs.           20:56:27

5           Q. And a number of those APIs that we've           20:56:29  
6           discussed did provide access to certain friend           20:56:31  
7           information of users not using the apps that would           20:56:33  
8           be -- that would have access to those APIs. Right?           20:56:36

9           A. So, yeah. If we go back to the           20:56:41  
10          previous -- the previous testimony I gave on this,           20:56:43  
11          the Taggable Friend API returned a list of the           20:56:47  
12          user's -- a list of the authorized user's friends           20:56:51  
13          that were taggable in the application.           20:56:58

14          The amount of data that these APIs           20:57:00  
15          returned was very, very limited. In the case of           20:57:03  
16          the Taggable Friend API, for example, the amount of           20:57:09  
17          data emitted was the name, a URL to a person's           20:57:13  
18          profile picture, and a token which could be passed           20:57:17  
19          back to the API to tag them in a post.           20:57:21

20          That was the extent of the information           20:57:24  
21          available via those APIs -- via the Taggable           20:57:26  
22          Friends API, in my recollection.           20:57:30

23          Q. And you say it's limited information, but           20:57:33  
24          it is still fairly described as "friends data."           20:57:36  
25          Right?           20:57:39

1           A. It is some information about a friend or a           20:57:40  
2       list of friends.           20:57:45  
3           But I would draw a distinction between           20:57:47  
4       that and the friend permissions, which gated a very           20:57:50  
5       different set of information.           20:57:55  
6           Q. And we might need to blow it up a bit, but           20:57:59  
7       I'm interested in the Social Context API here, and           20:58:02  
8       I'll read it:           20:58:07  
9       [REDACTED]           [REDACTED]  
10      [REDACTED]           [REDACTED]  
11      [REDACTED]           [REDACTED]  
12      [REDACTED]           [REDACTED]  
13      [REDACTED]           [REDACTED]  
14      [REDACTED]           [REDACTED]  
15      [REDACTED]           [REDACTED]  
16           Did I more or less read that sentence           20:58:32  
17       accurately?           20:58:34  
18           A. You more or less read it accurately.           20:58:35  
19           Q. And what is an "endpoint"?           20:58:37  
20           A. An "endpoint" is another word to describe           20:58:42  
21       an API. It's a -- it's a -- a term used to           20:58:47  
22       describe an API that a developer could call.           20:58:54  
23           Q. And so using this example of the -- the           20:59:02  
24       movie ID context endpoint, it says:           20:59:07  
25           "For example, you might be able to answer           20:59:12

|    |   |          |
|----|---|----------|
| 1  | the question, 'Which of my friend have              | 20:59:13 |
| 2  | watched this movie?'"                               | 20:59:16 |
| 3  | So, technically, how would that app be              | 20:59:17 |
| 4  | able to answer that question with the Social        | 20:59:20 |
| 5  | Context API?  | 20:59:22 |
| 6  | A. As I talked about earlier, the precise way       | 20:59:26 |
| 7  | that the Social Context API worked is not something | 20:59:30 |
| 8  | I am very familiar with. In fact, I am not even     | 20:59:35 |
| 9  | sure exactly when it existed and how it behaved.    | 20:59:41 |
| 10 | So, I think, like, details on exactly how           | 20:59:48 |
| 11 | the Social Context API worked, like, I don't think  | 20:59:50 |
| 12 | I can give a clear answer to.                       | 20:59:53 |
| 13 | MR. LOESER: Mr. Cross, I'm noting for the           | 21:00:00 |
| 14 | record that I believe it is now 9:00 P.M. your      | 21:00:02 |
| 15 | time. Is that correct?                              | 21:00:04 |
| 16 | THE WITNESS: It is. But I'm happy to do             | 21:00:05 |
| 17 | 15 or 20 more minutes if that -- if that would help | 21:00:08 |
| 18 | us get through stuff.                               | 21:00:11 |
| 19 | If now is a convenient time to break for            | 21:00:13 |
| 20 | you, let's break. But if there was a convenient     | 21:00:15 |
| 21 | time to break for you that's 10, 15-minutes away,   | 21:00:17 |
| 22 | these -- let's do that. I don't want to --          | 21:00:21 |
| 23 | MR. LOESER: Okay. I appreciate your                 | 21:00:24 |
| 24 | flexibility, and I'll keep going, and we'll pretty  | 21:00:27 |
| 25 | quickly get through those 15 minutes. And that      | 21:00:31 |



1 would probably be a good time in where I am to stop 21:00:34

2 anyway. So -- 21:00:37

3 THE WITNESS: Cool. Let's do that. 21:00:38

4 BY MR. LOESER: 21:00:39

5 Q. And, I should say, in order to go further, 21:00:39

6 it would take a lot longer than 15 minutes. So in 21:00:41

7 light of the schedule you have, I think that's a 21:00:44

8 good time to stop. 21:00:46

9 A. Okay. Great. 21:00:47

10 Q. Okay. This is a broad question, and we 21:00:48

11 can start big and go small. 21:00:52

12 But how did Facebook determine what apps 21:00:54

13 to whitelist for friend -- for providing access to 21:00:56

14 friend data? 21:01:03

15 A. Again, to clarify, what do you mean by 21:01:07

16 "friend data"? 21:01:09

17 Do you mean the friends permissions? 21:01:11

18 Q. I mean information about users who are not 21:01:14

19 the users of the app. 21:01:16

20 So whatever information made available via 21:01:19

21 the -- the permission to access the friends -- you 21:01:22

22 know, I'm going to garble the terminology every 21:01:30

23 time I try and do it. 21:01:33

24 But there's an API that grants -- that 21:01:35

25 provides, technically, access to friends 21:01:37

1 information about the app's users. 21:01:39

2 And I'm interested in understanding when 21:01:41

3 Facebook put an app on a whitelist so that it 21:01:43

4 continued to access the data of a user's friends, 21:01:46

5 how it made that decision. 21:01:48

6 A. Okay. So -- 21:01:50

7 Q. And let me make it even easier for you. 21:01:52

8 The time period I'm interested in is in 21:01:55

9 the transition from Graph API Version 1 to 21:01:58

10 Version 2. 21:02:00

11 A. Okay. So let me -- let me -- let me try 21:02:01

12 and play back some -- some context, I think, is 21:02:07

13 important to the answer here. 21:02:10

14 So, first of all, as you have kind of 21:02:15

15 defined "friends data" and we've discussed it 21:02:20

16 earlier in this testimony, like, there are APIs 21:02:24

17 that were available publicly in Version 2 that 21:02:31

18 would have emitted some limited amount of 21:02:36

19 information about an app using users' friends. 21:02:40

20 For example, their comments on my photos 21:02:45

21 or limited information about them in order to 21:02:48

22 render a taggable -- a "tagging" user type ahead, 21:02:51

23 for example. 21:03:01

24 So, in this context, let me play back to 21:03:01

25 you -- I want to make sure I'm understanding your 21:03:04

1 question correctly. 21:03:06

2 You are specifically referring to 21:03:09

3 permissions or behaviors that were no longer 21:03:10

4 available in Version 2 of the API, and you're 21:03:14

5 interested in applications that continued to have 21:03:17

6 access to the behaviors in API Version 1 after they 21:03:22

7 were no longer available to a nonwhitelisted 21:03:28

8 developer. 21:03:31

9 Do I have that correct? 21:03:32

10 Q. Correct. 21:03:34

11 A. Okay. Cool. 21:03:34

12 So having talked to people, the -- the -- 21:03:42

13 my understanding of how these decisions were -- how 21:03:48

14 these discussions happened is that there were a 21:03:54

15 number of developers who had been unable to update 21:03:58

16 their apps in time for the public API deprecation, 21:04:05

17 or that they -- that their use case -- they 21:04:11

18 required more time to migrate than was available 21:04:14

19 to -- to regular developers. 21:04:17

20 And so there were conversations had about 21:04:20

21 whether or not some of these applications should be 21:04:23

22 granted additional time to -- to migrate from the 21:04:27

23 API Version 1 behavior to the standard API 21:04:34

24 Version 2 behavior. 21:04:37

25 Q. And were any other considerations relied 21:04:40

1 on by Facebook when determining whether to 21:04:47  
2 whitelist an app? 21:04:49  
3 A. Again, can we -- specifically for -- 21:04:53  
4 for -- continued access to the API of V1 behavior 21:04:56  
5 and permissions associated with API V1? 21:05:02  
6 Q. Right. 21:05:06  
7 A. My understanding was that the rationale 21:05:12  
8 was based on whether or not the user experience 21:05:15  
9 would be broken if the deprecation timeline was 21:05:17  
10 followed or whether or not there would be other 21:05:23  
11 risks for the developer of the deprecation being 21:05:28  
12 enforced on the general time frame. 21:05:34  
13 So those -- primarily, it was about 21:05:38  
14 developers needing more time to migrate because, if 21:05:42  
15 they -- if the enforcement and deprecations 21:05:45  
16 happened on that publicly available timeline, there 21:05:49  
17 would be negative impacts primarily for the user 21:05:52  
18 experience of the people using the app -- 21:05:54  
19 Q. And you -- sorry. Go ahead. 21:05:57  
20 A. No, go on. 21:05:59  
21 Q. You mentioned other risks for the 21:06:02  
22 developer. 21:06:04  
23 What were the other risks? 21:06:04  
24 A. So one I recall was that there was an 21:06:07  
25 application providing compliance services to people 21:06:17

1 in the financial and insurance industry, and their 21:06:21  
2 customers would -- were still using their 21:06:25  
3 application in a certain way, and they needed more 21:06:31  
4 time to train their customers to not use the 21:06:34  
5 application in a certain way because the 21:06:39  
6 functionality they were relying upon would become 21:06:44  
7 unavailable when the API deprecations were applied 21:06:47  
8 to them. 21:06:54

9 Q. And what you described were considerations 21:06:56  
10 taken into account vis-à-vis developers. 21:07:01

11 But were there different considerations 21:07:05  
12 taken into account on whether to grant Facebook 21:07:06  
13 partners with continued access to publicly 21:07:10  
14 deprecated permissions? 21:07:13

15 A. Sorry. Say that again? 21:07:17

16 Q. So you indicated that the -- the -- there 21:07:20  
17 was extensions provided so apps could migrate to 21:07:23  
18 the new platform, and you spoke about that for a 21:07:26  
19 minute. 21:07:31

20 But I'm wondering if there were other 21:07:31  
21 considerations that were taken into account when 21:07:33  
22 discussing partners in particular and whether they 21:07:35  
23 should be provided continued access to publicly 21:07:39  
24 deprecated permissions. 21:07:42

25 A. My understanding is that there were some 21:07:46

1 contractual agreements that specified a longer 21:07:48  
2 deprecation window than was available to -- than 21:07:54  
3 was offered to regular developers; and, as such, 21:07:58  
4 it's possible that some of the extensions to the 21:08:04  
5 deprecations were granted on that basis. 21:08:11

6 Q. And were there any other bases that 21:08:14  
7 Facebook had for providing continued access to 21:08:17  
8 publicly deprecated permissions to partners? 21:08:20

9 A. Can you define again what you mean by 21:08:24  
10 "partners" here? 'Cause all partners are 21:08:25  
11 developers in this context. 21:08:28

12 Q. I mean the entities that have been 21:08:31  
13 described by Facebook as "integration partners" 21:08:33  
14 or -- there are a variety of other categories of 21:08:36  
15 partner that Facebook uses. In fact, looking at 21:08:41  
16 your notes, you have "integration partners, 21:08:44  
17 business integrations, media integrations, search 21:08:47  
18 integrations." 21:08:49

19 So with regard to any of those categories, 21:08:51  
20 were there other considerations taken into account 21:08:54  
21 by Facebook when deciding whether to provide 21:08:57  
22 continued access to the publicly deprecated 21:09:00  
23 permissions? 21:09:02

24 A. So I think what's important to understand 21:09:04  
25 here is that -- let's take integration partners, 21:09:06

1       for example. 21:09:10

2               They had -- they had always had access to 21:09:11

3       some permission -- some APIs that were not 21:09:16

4       available to regular developers because they were 21:09:22

5       rebuilding a Facebook replacement client experience 21:09:24

6       on their devices. 21:09:28

7               So "integration partners" as has been, you 21:09:30

8       know, defined in the -- in the documents, were 21:09:35

9       already on several whitelists in order to provide 21:09:38

10      the experience that they offered to users. 21:09:46

11              So that's my understanding of how 21:09:54

12      integration partners continued to have access to 21:09:56

13      the -- the private APIs and behaviors they had 21:10:00

14      always had access to that were not available to 21:10:04

15      regular developers. 21:10:07

16              Q. Okay. And, again, I want to make sure I'm 21:10:09

17      using the right terminology, and I'm talking about 21:10:13

18      continued access to friend data. 21:10:16

19              So you've just described the continued 21:10:17

20      access that integration partners had to friend 21:10:19

21      data. 21:10:22

22              Were there considerations that Facebook 21:10:22

23      took into account when deciding whether the other 21:10:24

24      types of partners that we just went through had 21:10:26

25      continued access to friend data? 21:10:29

1           A. My understanding from talking to the           21:10:35  
2           people involved in this at the time, plus my own           21:10:37  
3           experience, is that the extensions granted to           21:10:40  
4           applications to access API Version 1 and the friend           21:10:46  
5           permissions was limited to cases where the user           21:10:51  
6           experience would be significantly degraded if they           21:10:54  
7           weren't given extra time or there was some form of           21:10:57  
8           legal and regulatory risk to the partner if the           21:11:02  
9           extension was not granted for a period of time.           21:11:05  
10                   But remember that there -- you know, there           21:11:09  
11           were other reasons to -- there were other           21:11:11  
12           deprecations and changes in the API behavior that           21:11:15  
13           were not related to the deprecation of the friend           21:11:18  
14           permissions. I think that's really important to           21:11:20  
15           understand.           21:11:22  
16                   Q. Right. And I perhaps led us astray with           21:11:23  
17           the terminology I was using.           21:11:26  
18                   And, really, what I'm asking -- and you           21:11:28  
19           can tell me if it changes any of your answers --           21:11:30  
20           but I'm looking for the reasons Facebook had to           21:11:33  
21           provide continued access to friend data by anyone           21:11:36  
22           after the transition to Version 2.           21:11:39  
23                   And we've talked about apps, and we've           21:11:41  
24           talked about business partner -- or integration           21:11:43  
25           partners and business integrations.           21:11:47



1                   And so just more broadly put, have you                   21:11:51  
 2                   given me the full list of reasons that Facebook               21:11:53  
 3                   used when deciding whether to provide continued               21:11:58  
 4                   access to friend data after the transition to               21:12:00  
 5                   Version 2?   21:12:06

6                   A.    So I provided -- friend data in                               21:12:08  
 7                   Version 2 -- like, again, I think it's important to               21:12:13  
 8                   separate these things.   Right?                                       21:12:20

9                   You're asking a compound question that's,                   21:12:23  
 10                  like, somewhat impossible to answer with -- given       21:12:25  
 11                  your definition of "friend data" and given the           21:12:30  
 12                  variety of different applications we're talking        21:12:32  
 13                  about here and the complexity of the whitelists --       21:12:35  
 14                  the various whitelists that these apps were on.        21:12:37

15                  So, like, I think your question is hard to            21:12:41  
 16                  answer in -- in simple terms given your definition       21:12:44  
 17                  of "friend data."   21:12:49

18                  Q.    And you're saying that because my                21:12:53  
 19                  definition includes the types of data that's            21:12:54  
 20                  provided with regard to APIs other than the friends       21:12:58  
 21                  permissions specifically and includes groups and        21:13:02  
 22                  events and social context and all of that, or is        21:13:04  
 23                  there some other complication?                           21:13:08

24                  A.    That's primarily the complication.   Like,       21:13:10  
 25                  integration partners, the primary use case there is       21:13:12

1       that these are experiences that are designed to       21:13:21  
2       replicate the Facebook experience on another mobile       21:13:29  
3       device platform, set-top box, or so on.       21:13:33

4               And those folks would have access to --       21:13:39  
5       always had access to information that wasn't       21:13:45  
6       available via the -- via the standard APIs. So       21:13:46  
7       that's one class of things.       21:13:51

8               Then there is the general deprecation --       21:13:56  
9       the general changes -- the whole package of changes       21:14:01  
10       from Version 1 to Version 2, which included the       21:14:04  
11       deprecation of the friend permissions, a number of       21:14:07  
12       other changes, including app-scoped user IDs and so       21:14:10  
13       on.       21:14:15

14               So in terms of granting extensions to the       21:14:15  
15       API Version 1 to Version 2 transition, from talking       21:14:20  
16       about all of -- from talking to all of the people       21:14:24  
17       involved to the -- as many people as I could that       21:14:26  
18       were involved at the time, the rationale for       21:14:29  
19       granting an extension is that it was a belief that       21:14:33  
20       the user experience would be severely degraded if       21:14:37  
21       the app wasn't given extra time to migrate from API       21:14:44  
22       Version 1 to Version 2.       21:14:48

23               Regular developers had a year. There were       21:14:51  
24       some applications, it was determined, that would --       21:14:54  
25       would provide a broken user experience if they       21:14:57

|    |   |          |
|----|---|----------|
| 1  | weren't given more time to upgrade.                 | 21:14:59 |
| 2  | And that was the determination based on,            | 21:15:03 |
| 3  | again, speaking to the people involved, the         | 21:15:06 |
| 4  | degradation in the user experience that would       | 21:15:08 |
| 5  | result, or whether or not there was risk around,    | 21:15:10 |
| 6  | like, legal and regulatory use of the Platform that | 21:15:17 |
| 7  | required extra time to unwind.                      | 21:15:23 |
| 8  | That's my understanding of the -- the               | 21:15:27 |
| 9  | reasons why some applications were granted          | 21:15:29 |
| 10 | additional time to migrate from Version 1 to        | 21:15:33 |
| 11 | Version 2.  | 21:15:36 |
| 12 | Q. And so those are all of the reasons that         | 21:15:38 |
| 13 | Facebook had for providing continued access to      | 21:15:40 |
| 14 | friend data for apps and partners after the         | 21:15:45 |
| 15 | transition to Version 2.                            | 21:15:51 |
| 16 | MR. BLUME: Objection to form.                       | 21:15:54 |
| 17 | THE WITNESS: The answer I just gave was             | 21:15:55 |
| 18 | in -- in two parts.                                 | 21:15:58 |
| 19 | Part one is: Integration partners who had           | 21:16:01 |
| 20 | built experiences that were on unusual devices,     | 21:16:06 |
| 21 | operating systems, and set-top boxes and so on that | 21:16:13 |
| 22 | required, in order to function, always, permissions | 21:16:16 |
| 23 | which -- APIs that were not generally available.    | 21:16:22 |
| 24 | The use of those APIs and permissions was           | 21:16:31 |
| 25 | governed by contracts, typically. That's what       | 21:16:34 |

1 determined an integration partner, and they were 21:16:37  
2 considered as operating on a different set of 21:16:40  
3 permissions and APIs than the public API surface 21:16:46  
4 area. 21:16:51

5 The second part of your question was 21:16:51  
6 determining extensions to Version-- the Version 1 21:16:53  
7 to Version 2 deprecation timeline where Version 1 21:16:57  
8 included friends permissions and Version 2 did not 21:17:01  
9 include the friends permissions. 21:17:06

10 And my understanding from talking to the 21:17:08  
11 people involved is that the reason for granting 21:17:11  
12 extensions to the standard Version 1 deprecation 21:17:14  
13 window was to do with degradation of the user 21:17:17  
14 experience and/or a few cases where the use of the 21:17:21  
15 API was involved in compliance use cases. 21:17:30

16 I -- it's possible that there are other 21:17:35  
17 reasons, but having talked to people and reviewed 21:17:38  
18 the documents in this case, it's consistent with 21:17:43  
19 that understanding as -- as referring to the friend 21:17:46  
20 permissions deprecations. 21:17:48

21 BY MR. LOESER: 21:17:52

22 Q. And, again, I just want to -- trying to 21:17:52  
23 make a record and make the record clear, and I'm 21:17:54  
24 trying to understand every type of entity -- call 21:17:57  
25 it a partner, call it a developer, call it an 21:18:01

1 app -- that continued to have access to friend data 21:18:04  
2 after the transition from Version 1 to Version 2. 21:18:07  
3 And you have described a couple different 21:18:10  
4 types of entities. You've described apps and 21:18:12  
5 business integrations, and you've described 21:18:15  
6 extensions that were provided to some; and for 21:18:19  
7 integrations, access that existed before and 21:18:23  
8 existed after. 21:18:26  
9 And what I'm trying to pin down is, is 21:18:27  
10 there any other category of third party that 21:18:30  
11 continued to have access to friend data after the 21:18:36  
12 transition to Version 2? 21:18:39  
13 Are there any other reasons that Facebook 21:18:42  
14 had for providing continued access to those 21:18:46  
15 categories? 21:18:48  
16 MR. BLUME: Objection. Form. 21:18:49  
17 THE WITNESS: So I -- it -- I think 21:18:53  
18 we're -- you're mixing up here the friend 21:18:55  
19 permissions, right, and the permissions that were 21:18:59  
20 used in the API to govern access to the data 21:19:02  
21 exposed via those permissions from friends data in 21:19:07  
22 the more general sense that you defined it earlier 21:19:13  
23 in this -- when we discussed earlier in this 21:19:17  
24 testimony. 21:19:20  
25 Like, it's -- I'm -- 21:19:20

|    |   |          |
|----|---|----------|
| 1  | BY MR. LOESER:                                      | 21:19:23 |
| 2  | Q. Let's go back. Let me make it easier.            | 21:19:23 |
| 3  | Let's put that aside for a moment, the              | 21:19:25 |
| 4  | other APIs that are not categorized as friend       | 21:19:27 |
| 5  | permissions, and just talk about friends; the APIs  | 21:19:30 |
| 6  | that were on that list that were deprecated.        | 21:19:34 |
| 7  | Other than the -- the third parties you've          | 21:19:37 |
| 8  | already described, are there any other categories   | 21:19:40 |
| 9  | of partner or developer or third party at all that  | 21:19:42 |
| 10 | had continued access to those permissions after the | 21:19:48 |
| 11 | transition?   | 21:19:52 |
| 12 | And if so -- let's stop with that. Let's            | 21:19:53 |
| 13 | start with that half of the question.               | 21:19:58 |
| 14 | A. Okay. So my understanding is that the            | 21:20:01 |
| 15 | ability of applications to request the friend       | 21:20:04 |
| 16 | permissions from users, which is, again, how this   | 21:20:08 |
| 17 | works, right? We're talking specifically about the  | 21:20:11 |
| 18 | friend permissions. These are things that apps      | 21:20:14 |
| 19 | could request users to grant to the application.    | 21:20:17 |
| 20 | My understanding is that the reasons for            | 21:20:22 |
| 21 | continuing to allow apps to request the friend      | 21:20:26 |
| 22 | permissions from users was limited to applications  | 21:20:31 |
| 23 | that needed additional time to -- to migrate.       | 21:20:38 |
| 24 | The -- and we've gone through the reasons for that. | 21:20:42 |
| 25 | Q. Okay. And there's -- and you also                | 21:20:50 |

1 described business integrations, and you gave the 21:20:52  
2 reason for that. 21:20:54  
3 And I just want to make sure that there's 21:20:55  
4 not any other category of partner, according to 21:20:58  
5 Facebook, that continued to have access to those 21:21:00  
6 permissions that were whitelisted. 21:21:03  
7 A. So when apps were whitelisted -- if an app 21:21:08  
8 was whitelisted to continue to have access to 21:21:12  
9 Version 1, then it could continue to request those 21:21:15  
10 permissions from some users. 21:21:18  
11 So by being granted an exception -- an 21:21:21  
12 extension to the deprecation timeline window, 21:21:25  
13 applications that were whitelisted to continue to 21:21:30  
14 have access to Version 1 could continue to access 21:21:33  
15 the friend -- could continue to request the friends 21:21:37  
16 permissions from users until that access was -- was 21:21:39  
17 removed. 21:21:43  
18 And my understanding is that the reason 21:21:45  
19 for that was to give those apps extra time to 21:21:50  
20 migrate to prevent degradation to the user 21:21:54  
21 experience. 21:21:58  
22 There are apps on -- I've been through the 21:22:00  
23 list of applications that were granted an 21:22:03  
24 extension, and a good example of that -- an 21:22:05  
25 application in that category was, like, the -- an 21:22:14

1 integration with car manufacturers and their head 21:22:18  
2 unit so you could access some kind of Facebook 21:22:22  
3 experience inside your car. 21:22:25

4 It's very hard to update the software on 21:22:27  
5 those devices, and they needed more time. 21:22:29

6 So that's my understanding of, like, the 21:22:37  
7 reason why extensions were granted; to give more -- 21:22:40  
8 developers more time to upgrade, given the changes 21:22:44  
9 in the API that would affect them -- not just the 21:22:47  
10 friends permissions, but other changes between 21:22:50  
11 Version 1 and Version 2, and that's why the 21:22:53  
12 extensions were granted. 21:22:57

13 Q. I'm not trying to get you to repeat the 21:23:04  
14 same testimony. I am simply trying to make sure 21:23:06  
15 that we've exhausted Facebook's reasons for 21:23:09  
16 whitelisting and the categories of apps or partners 21:23:12  
17 that were whitelisted. 21:23:16

18 And so there's nothing else to add to that 21:23:18  
19 from Facebook's perspective? 21:23:20

20 A. So the -- in terms of, like, whitelisting 21:23:24  
21 extensions to Version 1, there are other reasons 21:23:27  
22 why an app might be whitelisted, but that's 21:23:33  
23 generally not to do with their use of the friend 21:23:37  
24 permissions. 21:23:39

25 Q. Was it something to do with their use of 21:23:42



1 other deprecated permissions? 21:23:44

2 A. Other changes in behavior from Version 1 21:23:47

3 to Version 2. For example, app-scoped user IDs. 21:23:49

4 Big change to how the Facebook Developer Platform 21:23:55

5 operated. As I say, there's a whole number of 21:23:58

6 changes between Version 1 and Version 2. 21:24:02

7 Your question was about friends 21:24:04

8 permissions, and there are other reasons why some 21:24:06

9 apps were granted an extension. And my 21:24:09

10 understanding is that, you know, the reasons for 21:24:12

11 granting an extension to the friend permissions is 21:24:16

12 because of a user experience degradation and 21:24:19

13 striking a balance of giving more time -- those 21:24:23

14 developers more time to update their use of the 21:24:26

15 Platform or cases where the use of the Platform was 21:24:29

16 related to -- where the friend permissions were 21:24:33

17 used in the context of, like, regulated industries. 21:24:39

18 As I say, there are a number of developers 21:24:44

19 also whitelisted for continued access to Version 1 21:24:46

20 because of their use of other -- because of 21:24:50

21 their -- because of them being affected by other 21:24:53

22 changes in the API between Version 1 and Version 2. 21:24:55

23 MR. LOESER: Okay. Mr. Cross, we're at 21:25:07

24 now 9:25 your time, and I want to be sensitive to 21:25:09

25 your schedule. 21:25:12

|   |          |
|---|----------|
| So we're more than happy to keep going,             | 21:25:13 |
| but if you want to stop, it's getting late for you. | 21:25:16 |
| So --   | 21:25:19 |
| THE WITNESS: Yeah, now is a good time. I            | 21:25:19 |
| can feel my voice going, and this stuff is          | 21:25:21 |
| important to get right. So I think it's a good      | 21:25:24 |
| moment to pause and then come back and continue on  | 21:25:27 |
| Thursday.   | 21:25:30 |
| MR. LOESER: Okay. Well, thank you for               | 21:25:31 |
| your time this evening, and we'll start again on    | 21:25:33 |
| Thursday.   | 21:25:35 |
| THE VIDEO OPERATOR: And we're off the               | 21:25:38 |
| record. It's 9:25 P.M.                              | 21:25:39 |
| (Time noted, 9:25 P.M. London Daylight              | 21:25:41 |
| Time)   | 21:25:43 |
| --o0o--   |          |

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## CERTIFICATE OF REPORTER

I, HOLLY THUMAN, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth, and nothing but the truth in the within-entitled cause; that said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated; and that the testimony of said witness was thereafter reduced to typewriting by computer, to the best of my ability via remote videoconferencing, under my direction and supervision;

That before completion of the deposition review of the transcript [] was [X] was not requested/offered. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the event of this cause, and that I am not related to any of the parties thereto.

DATED: May 12, 2022



HOLLY THUMAN, CSR

IN RE: FACEBOOK, INC., CONSUMER PRIVACY USER PROFILE LITIGATION  
SIMON CROSS, JOB NO. 5210141

E R R A T A S H E E T

PAGE 10 LINE 16 CHANGE "international" to "international travel"

REASON misspoke

PAGE 27 LINE 25 CHANGE "and are" to "and that are"

REASON misspoke

PAGE 33 LINE 6 CHANGE "those" to "them"

REASON misspoke

PAGE 36 LINE 12 CHANGE "a documentation" to "documentation"

REASON transcription error

PAGE 43 LINE 15 CHANGE "It was" to "There were"

REASON transcription error

PAGE 52 LINE 19 CHANGE delete "Facebook-like or - - Facebook-branded or"

REASON transcription error



24th June 2022

WITNESS

Date

CONFIDENTIAL

IN RE: FACEBOOK, INC., CONSUMER PRIVACY USER PROFILE LITIGATION  
SIMON CROSS, JOB NO. 5210141

E R R A T A S H E E T

PAGE 55 LINE 2 CHANGE "billing" to "building"

REASON transcription error

PAGE 65 LINE 7 CHANGE "would refresh" to "to refresh"

REASON transcription error

PAGE 79 LINE 12 CHANGE "138S" to "138X"

REASON transcription error

PAGE 86 LINE 15 CHANGE "friend" to "friends"

REASON misspoke

PAGE 94 LINE 4 CHANGE delete "also using the same app"

REASON transcription error

PAGE 102 LINE 9 CHANGE "is the" to "of the"

REASON transcription error



24th June 2022

WITNESS

Date

IN RE: FACEBOOK, INC., CONSUMER PRIVACY USER PROFILE LITIGATION  
SIMON CROSS, JOB NO. 5210141

E R R A T A S H E E T

PAGE 127 LINE 5 CHANGE "functionality of the" to  
"functionality the"

REASON transcription error

PAGE 146 LINE 18 CHANGE "he can" to "he can answer"

REASON transcription error

PAGE 168 LINE 16 CHANGE "API 1" to "API V1"

REASON transcription error

PAGE \_\_\_\_\_ LINE \_\_\_\_\_ CHANGE \_\_\_\_\_

REASON \_\_\_\_\_

PAGE \_\_\_\_\_ LINE \_\_\_\_\_ CHANGE \_\_\_\_\_

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REASON \_\_\_\_\_



24th June 2022

WITNESS

Date

[&amp; - 4200]

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## [admit - api]

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**[api - application]**

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## [blackberry - categories]

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**[categorization - communication]**

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**[integration - launched]**

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**[provide - reason]**

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**[sharing - specifically]**

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

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